Tom Rowley and Ron Leckrone

The·Code Breakers

an ATARI® adventure

A CREATIVE PASTIMES BOOK

This book belongs to

The Code Breakers

An ATARI® Adventure

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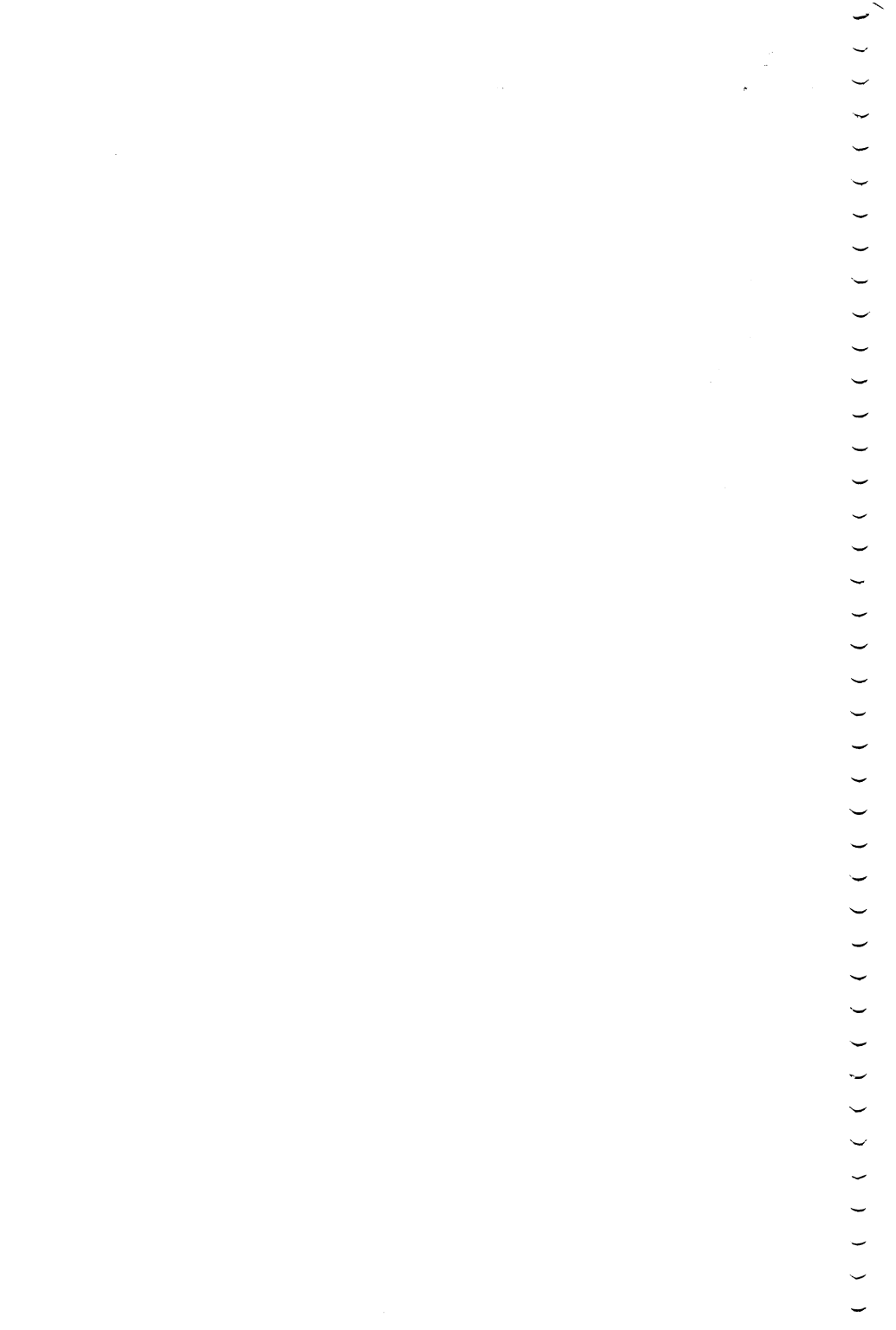Interior design and production by Laura Cleveland.

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Introduction

Welcome. You are about to begin an ATARI adventure with Nikki and Adam. Explore with them as they make discoveries that lead to an exciting conclusion. But beware . . . you must use your ATARI computer to keep Nikki and Adam at your side. As you discover each of the clues, put yourself in Nikki and Adam's place. Use your computer to interpret the clues and discover their meaning, just as they do. Uncover the mystery of the secret messages as you break each of the codes. As the story unravels, use your newly discovered clues to solve the mystery of *The Code Breakers*.

As you go through this book, you will need to type programs into your computer. Each of these programs is placed in a gray box. Each time you encounter one of these programs, type in each line then read the text, run the program, and do the same thing that Nikki and Adam do. Put yourself in their shoes and use your computer to see what they discover. Also, keep a pencil and paper handy to record clues and messages.

The programs in this book will work correctly on the ATARI 400, 800, and the entire ATARI XL series of computers. An ATARI BASIC programming cartridge is required for the ATARI 400, 800, and 1200XL computers. A disk drive or a cassette program recorder is nice to have but not essential.

You do not need to know how to write computer programs to use this book. Programs like "CODE BREAKER" and "COLOR KEY" are listed but, you must be able to correctly type each line into your computer. The programs have been kept short to help you get them

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working quickly. Some of the programs are used more than once throughout the book. If you have a disk drive or cassette recorder, you will find it helpful to save the programs so that you don't have to type them into your computer again. See the section on saving and loading programs in the back of this book if you need assistance.

If you have little or no experience programming computers, read the next section. It will help you to transfer the programs from this book to your computer. If you are an experienced programmer, let the adventure begin! In any case, the story will not go on without you.

From Book to Computer

Nikki and Adam type programs into their computer as their adventure unfolds. You will be a part of the adventure by using the programs to make the same discoveries as they do. But, you must be able to successfully get each of the programs to work. That is what this section is all about.

To use this book, you need an ATARI computer with the ATARI BASIC programming language. When you turn the computer on in the BASIC programming mode, you should see the familiar blue screen with the word READY printed in the upper left-hand corner.

Each program that Nikki and Adam use is placed in a gray box as shown by the sample program below.

```
10  REM SAMPLE PROGRAM
20  GRAPHICS 0
30  PRINT "THIS IS A SAMPLE COMPUTER PROGRAM."
40  END
```

To use this program, you must type each of the program lines into the computer. But, before you begin, you should erase any old programs from the computer by typing the NEW command. Don't do it yet. You'll get a chance in a moment. After typing NEW, the program lines can be typed. Each time you complete a line, press the **RETURN** key.

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Sometimes you make mistakes while typing a line. If you are still in the middle of the line and have not yet pressed the **RETURN** key, you can use the **BACK S** key to back up. Simply make the correction and continue typing the line.

If you realize that you have made a mistake after you press the **RETURN** key, you can correct it by typing the entire line over. You do not need to worry about which line you've typed last. The lines do not need to be typed in the same order shown in the gray box. The computer will automatically put the program line in the correct place according to the number at the beginning of the line (the line number). If you type the wrong line number, you can erase it by typing only the line number and pressing **RETURN**.

You can find out if you have typed all of the lines correctly by using the LIST command. This command will list all of the lines in the program. You can compare the lines listed in the gray box to the lines listed on the TV screen. Don't be alarmed if some of the lines on the screen wrap around onto the next line.

Let's try an example. Type the sample program into your computer. But first, type NEW to erase any old programs.

```
NEW  RETURN

10   REM SAMPLE PROGRAM
20   GRAPHICS 0
30   PRINT "THIS IS A SAMPLE COMPUTER PROGRAM."
40   END
```

> Remember, press **RETURN** after each line.

If you have made any mistakes as you typed the program, correct them. Now list the program. Type

```
LIST  RETURN
```

The listing on the computer screen should look exactly like the sample program. It's OK that line 30 wraps around onto an additional line of the screen. Check again to make sure you have not made any mistakes. Make sure you have not typed the letter O for the number zero or the letter L for the number one.

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Once the program has been correctly typed into the computer, it is ready to be used. Type RUN to see what happens.

RUN **RETURN**

Your TV screen should look like this:

```
THIS IS A SAMPLE COMPUTER PROGRAM
READY
■
```
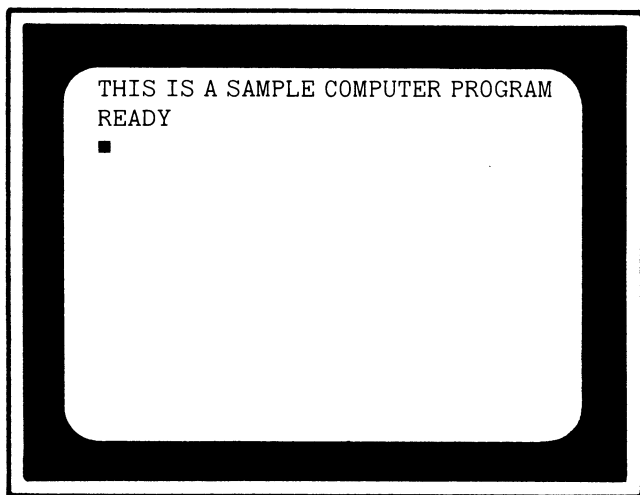
Sometimes, when you run a program, it doesn't stop by itself. You can press the **SYSTEM RESET** key to stop a program from continuing. This also returns the computer to the programming mode.

If you follow the above steps, with a little practice you should be able to make programs work. If you have difficulty, even after reading this section, consult a BASIC programming text for the ATARI computer. Or, better yet, ask a friend for help. That's more fun.

5th AVE.

POLICE
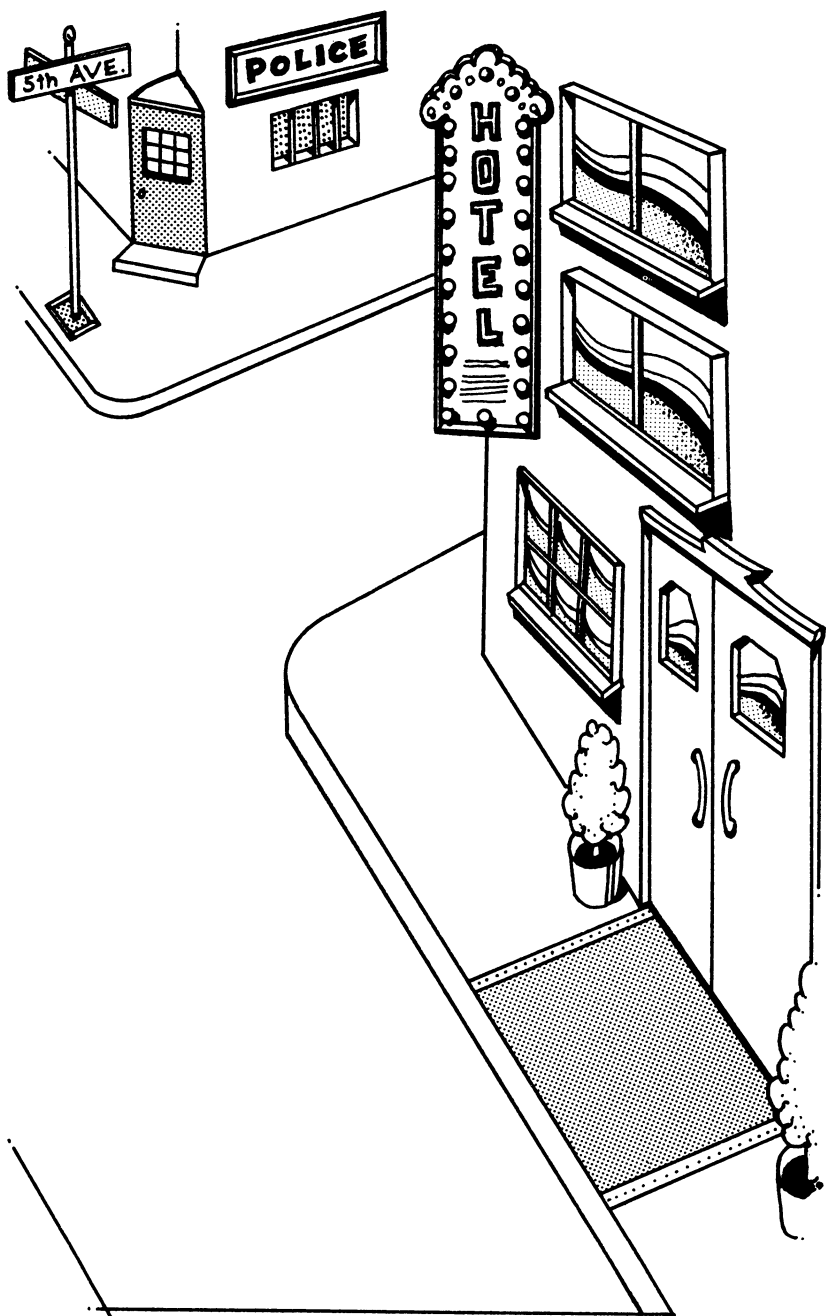
HOTEL

Arrival at the Hotel

This was the second time they had traveled to Chicago with their Dad on a weekend business trip. This time it was a convention. It was special because their last trip to Chicago had been the first time they were able to talk their parents into letting them go along. Now, in just two years, they had been to Dallas, Denver, San Jose, Tampa, and now back to Chicago. Philadelphia was OK but there were a lot of good things in other cities. Chicago has good museums and that was the reason they had used to talk their way into the trip before, and again this trip.

Nikki and Adam were used to flying, but this time they had worried about their computer down below with the luggage. Their Dad had said to put it in a suitcase and not to worry. Adam wasn't so sure.

The trip from the airport in their rented car didn't take too long, and soon they were checking into their hotel. The room was spacious with a high ceiling. There was a TV on the dresser next to one of the two desks. It looked like it would work well with their computer.

Their Dad immediately got on the phone at one of the desks to check on the arrival of the other people. He was dialing the phone again and again. "It doesn't seem to matter, nothing happens when you finish dialing. Looks like I have to go downstairs to check on reservations. This small hotel may not have been such a good idea

after all. I'll be back in a moment," he said as he left the room. "We'll be here," answered Nikki.

Adam hooked up the computer to the TV first thing. It worked and he was typing in a short program. Then he typed RUN.

```
10   FOR J = 1 TO 10
20   PRINT J
30   NEXT J
```

"Not that stupid program," complained Nikki. "That's the only test program you ever type."

"It's as good a test as any. I just wanted to see if the computer worked. What would you type, smarty?" asked Adam. Nikki changed the program by retyping line 20. The program looked almost like before.

```
10   FOR J = 1 to 10
20   PRINT "NIKKI"
30    NEXT J
```

She typed RUN.

"Talk about stupid," said Adam.

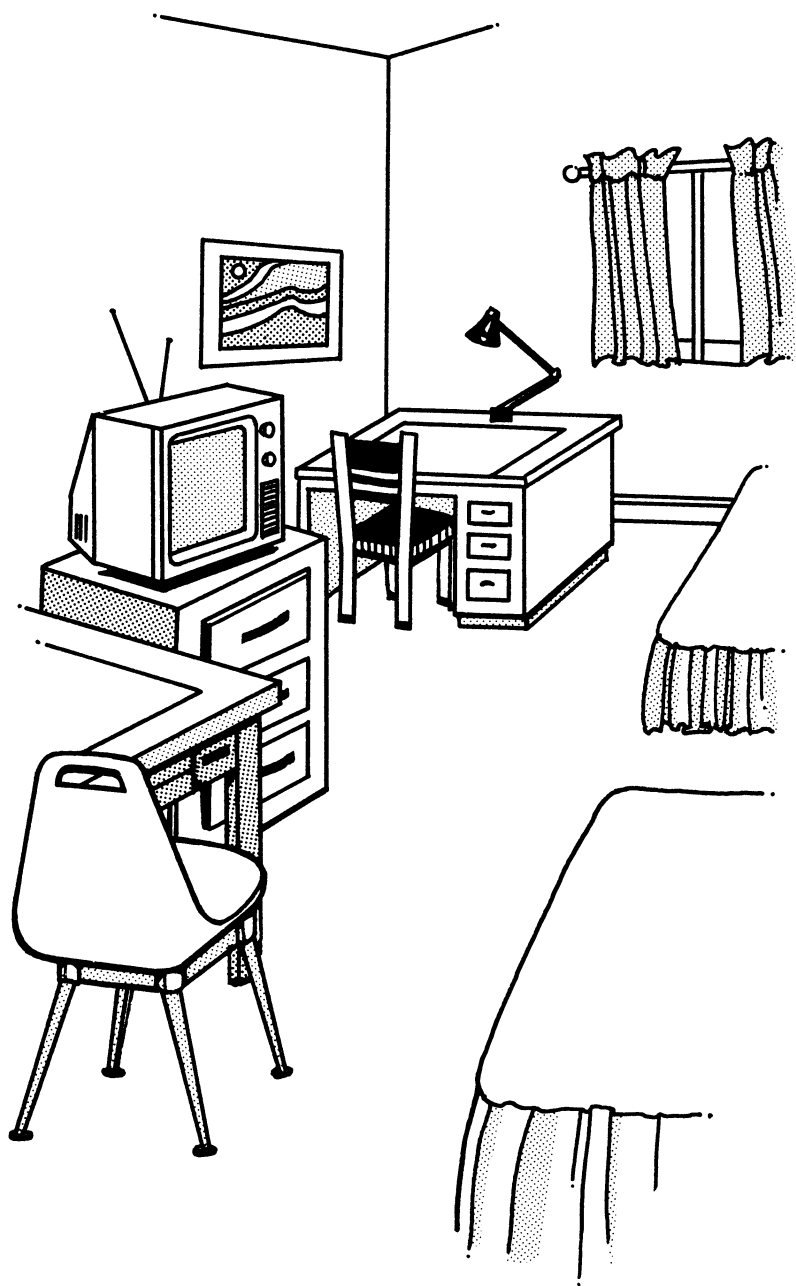"It's as good as yours," said Nikki, smiling.

"That's true," agreed Adam.

"Let's check out the sound." Nikki typed NEW to erase the old program and then typed a short sound program into the computer. When she finished, she typed RUN.

```
10   FOR P = 0 TO 255
20   SOUND 0,P,10,10
30   NEXT P
```

"I'll make it go backwards," Adam said as he changed line 10 to:

```
10   FOR P = 255 TO 0 STEP − 1
```

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Adam ran the changed program. "That's an interesting sound."
"We should check the color," said Adam, and entered a new program and typed RUN.

```
10   FOR I = 0 TO 15
20   SETCOLOR 2,I,0
30   NEXT I
```

"The colors changed too fast. I'm going to slow it down," Nikki said as she added line 25 to the program.

```
25 FOR J = 1 to 250:NEXT J
```

She typed LIST to check her entry. "That's better," Nikki said, complementing herself as she typed RUN. "The colors look pretty good."

Just then their Dad returned. "Has everyone arrived?" asked Adam.

"All but one or two as far as I can tell. Some people are supposed to arrive later anyway. I need to pick them up at the airport," answered their Dad. "But, there may be a room mix-up or two. The clerk at the desk doesn't seem to know what he's doing. It may be a good thing that we haven't finished unpacking yet. I'm sure it will be straight by tonight. Next year someone else can do this."

Nikki and Adam knew that the special reservations for the convention committee and speakers hadn't been easy to arrange. "Hey Dad, when do we eat?" asked Nikki.

"It's only four o'clock! Why don't you go down to the lobby and see where you can get a soda or something?" their Dad suggested. "Take a key—I may have to leave again before you get back and I'll be in and out all evening. Why don't you ask where you can eat tonight and I'll join you if I can."

Nikki already had the extra key. As soon as Adam had his shoes on they were gone in a shot out the door. Oops, Nikki ran right into the same porter who had helped them upstairs with the suitcases. He looked as surprised as Nikki, who apologized.

"Where can we get some pop?" asked Adam.

"Machines in the lobby," the porter answered shortly, and quickly walked away.

"Pop! What's pop?" asked Nikki.

"Don't you remember the last time we were here they called soda, pop?" asked Adam.

"Oh, yeah," remembered Nikki as they started down the hallway.

A Visit to the Lobby

"Look, we don't have any change," noticed Adam when they got to the lobby.

"Let's ask at the desk," suggested Nikki.

The man at the desk didn't pay any attention to them. He was dialing a telephone number at the hotel switchboard and was having trouble making it work. The tones from the telephone seemed to be playing "Twinkle, Twinkle Little Star" as he pushed the buttons. First it went out over the paging system, then they could hear it in the office behind the desk and, apparently, someone finally answered the phone. He said, "Everything is ready here," and hung up. He looked around at them, a little surprised that they were there.

"Can we get some change?" asked Nikki, holding up two dollars.

"Uh. . . ." He quickly looked all around behind the counter and said, "Not here. Uh. . . . Try over in the lounge." He pointed across the lobby.

"No wonder Dad is having trouble with the reservations. He must be new," Adam whispered to Nikki as they headed toward the lounge.

The lounge was small and dimly lit. They stood in the entrance where there were two video games. They could see the bartender who appeared to be busy with something behind the counter. There was no one else at the bar as far as they could see. The tables were empty, too.

They stood at the entrance to the lounge for a while. Adam said, "Let's go back to the desk and ask if there's anyplace else to get

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change." But, as they looked around, they could see that the man at the desk wasn't there anymore.

Nikki said, "I'd feel a little foolish asking again."

"Besides, he seemed pretty confused," added Adam.

Finally, Nikki said, "I'll get it."

"You shouldn't go in there!" Adam warned.

"I'm just going to get us some change," insisted Nikki.

The man in the bar didn't look too happy to see them, but Nikki just marched up to the bar and asked, "May I have some change, please?"

"Are you guests here?" The bartender made it sound like a challenge.

"Yes. We're in room 405."

The bartender looked surprised, and his tone became a little friendlier, "This isn't a good place for kids." He gave them the change from a little glass next to the cash register and quickly went back to working on what looked like a small computer.

"Let's get a 'pop' for Pop, too," suggested Nikki as they left the bar.

Adam carried the extra soda for his Dad. When they got back to their room the door was locked. "It looks like Dad left," Nikki commented as she got out her key.

Adam noticed several pieces of folded paper lying on the floor in the hallway. "My hands are full." Adam kicked the papers toward Nikki. She picked them up as they entered the room.

Adam sat down at the computer. This time he was going to keep a record of all their trip expenses. After all, it would be nice to help Dad out. Adam loaded his list maker program and made a few changes.

```
10   REM LIST MAKER
20   GRAPHICS 0:C=PEEK(560)+PEEK(561)*256
30   POKE C+3,70:FOR X=6 TO 8:POKE C+X,6:NEXT X
40   POKE 708,30:POKE 709,0:POKE 710,26:POKE 712,130
50   POKE 87,1
60   PRINT #6:PRINT #6;"    LIST MAKER"
100  DIM A$(10),B$(10)
110  POKE 87,0:POSITION 2,6
```
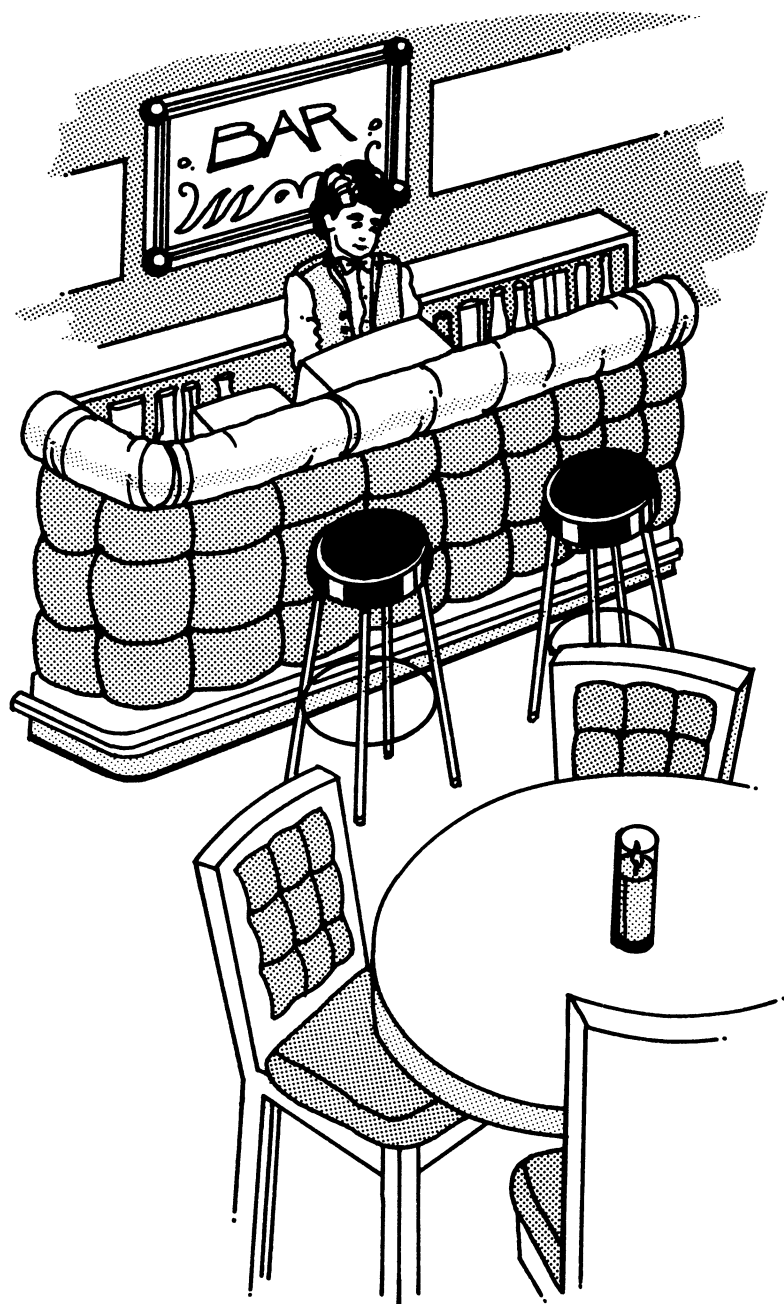
```
120  PRINT "NAME","ITEM","COST"
130  PRINT "----","----","----"
140  READ A$,B$,C
150  IF A$ = "END" THEN 200
160  T = T + C
170  PRINT A$,B$,C
180  GOTO 140
200  PRINT : PRINT "GRAND TOTAL IS",T
300  DATA ADAM,MAP,2.25
310  DATA NIKKI,SODA,.50
320  DATA ADAM,SODA,.50
330  DATA DAD,SODA,.50
340  DATA END,END,0
```

Adam ran the program to see the list of all their expenses so far appear on the TV screen. He even remembered to include the map of the city they had bought at the airport.

```
                LIST MAKER

         NAME    ITEM     COST
         ADAM    MAP      2.25
         NIKKI   SODA     0.50
         ADAM    SODA     0.50
         DAD     SODA     0.50
         GRAND TOTAL IS   3.75
```

"Maybe we should get something to eat," Adam said as he saved his program. "It's still early. Let's wait for Dad," said Nikki.

The Mysterious Messages

Adam had finished saving his expense program when Nikki said, "Look at this!" She had unfolded the papers they found in the hallway and laid them out on one of the beds.

"What is it?" asked Adam. "I'm not sure. It looks like a list of numbers," answered Nikki as she looked at one of the pieces of paper.

"Looks like a computer program on the big piece." Adam was excited, "I wonder what this list means?"

A. Car Rental ✓
B. Laundry ✓
C. Hotel ✓
D. Basement
E. Center
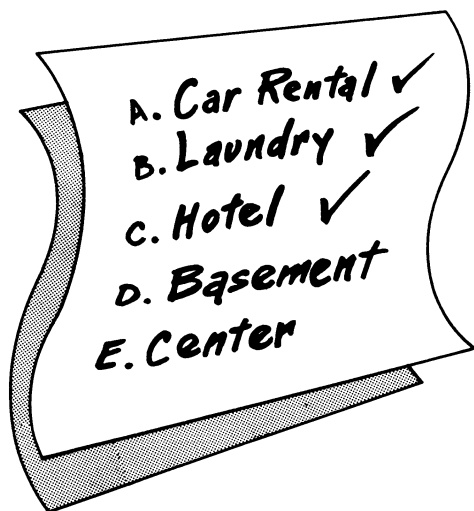
"Look, the first three are checked off," noticed Nikki. "Let's see the program," said Adam.

```
10  REM CODE BREAKER
20  GRAPHICS 0:C=PEEK(560)+PEEK(561)*256
30  POKE C+3,70:FOR X=6 TO 8:POKE C+X,6:NEXT X
40  POKE 708,30:POKE 709,0:POKE 710,154:POKE 712,64
50  POKE C+15,48:POKE 87,1
60  PRINT #6:PRINT #6;"     CODE BREAKER"
100  POKE 87,0:DIM A$(250)
110  TRAP 110:POSITION 2,5
120  PRINT "TYPE EACH CODE AND PRESS RETURN     "
130  POSITION 34,5:INPUT N:A$(LEN(A$)+1)=CHR$(N)
140  POSITION 2,12:PRINT A$
150  GOTO 110
```

Adam started typing the program into the computer. Nikki examined the large piece of paper containing the program. "Would you quit messing around with the paper when I'm trying to type the program!" complained Adam.

On the smaller pieces of paper were long lists of numbers. Nikki picked up one of the smaller pieces and said, "Notice all the numbers on this small piece of paper?"

74–79–78–69–83–155–84–82–79–80–82

73–65–32–82–65–67–32–76–65–84–78

–69–82–155–49–50–58–48–48

19
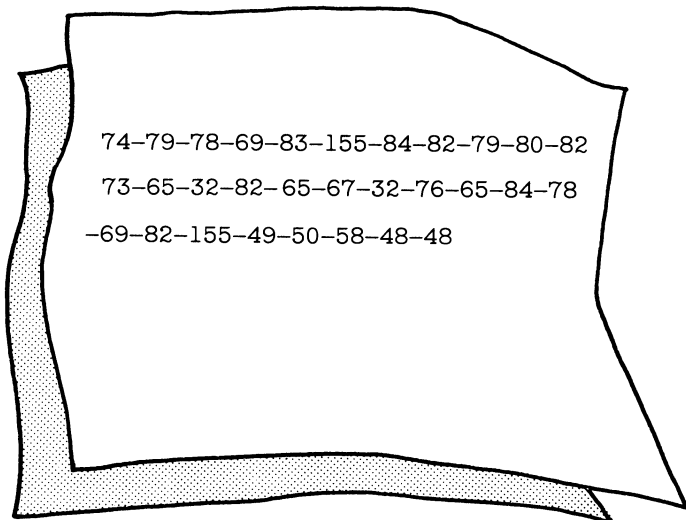
"I'll bet this program has something to do with those numbers," answered Adam. "That's why I'm typing it in."

When Adam finished entering the program, he typed RUN. The computer seemed to be waiting for him to type the numbers. "I'll read the numbers to you," Nikki offered.

"Here we go," Nikki began, "74, 79, 78, 69, 83, 155, 84, 82, 79, 80, 82, 73, 65, 32, 82, 65." Adam entered the numbers and pressed the `RETURN` key after each entry.

"Something is printing on the screen. How many more numbers are there?" asked Adam.

"We're only about half done. Don't interrupt, just type. I might lose my place," said Nikki and continued, "67, 32, 76, 65, 84, 78, 69, 82, 155, 49, 50, 58, 48, 48."

"Well?" exclaimed Adam. "Look at that!"

Nikki was surprised too. "But does that middle line make any sense to you?"

"TROPRIA RAC LATNER," Nikki read aloud. "Sounds like a foreign language."

"Let's try the other list," Nikki suggested. She pressed the `SYSTEM RESET` key and typed RUN. They both knew that this was an easy way to start the program over again. This time Adam read the numbers and Nikki entered each one into the computer.

74–69–78–75–73–78–83–155–69–75–65

84–32–82–72–155–49–52–58–48–48

69–86–79–32–76–69–84–79
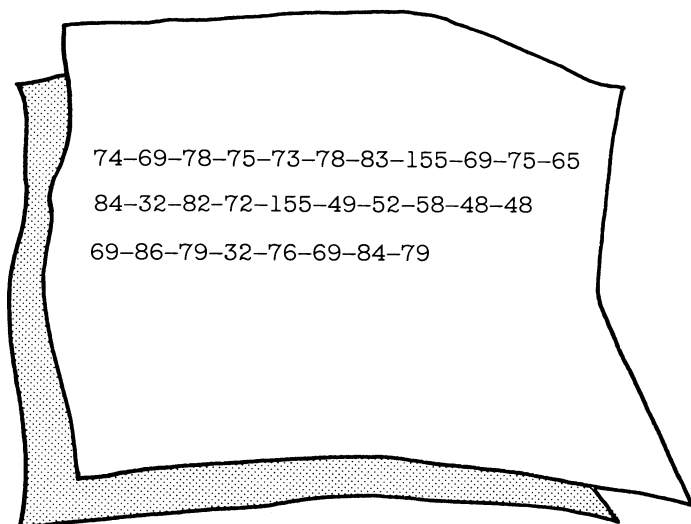
"The middle line still doesn't make any sense. Why would some-one have a list like this," said Nikki after studying the second message.

"I can see why they threw it away," laughed Adam.

This time Nikki copied the decoded message onto a piece of paper. "Neat program," she said as she saved it.

"We haven't tried this one." Adam waved another of the smaller pieces of paper.

"Read it to me." Nikki sat ready at the keyboard.

74–65–67–75–83–79–78–155–52–51–50

49–45–53–53–53–155–50–50–58–48–48
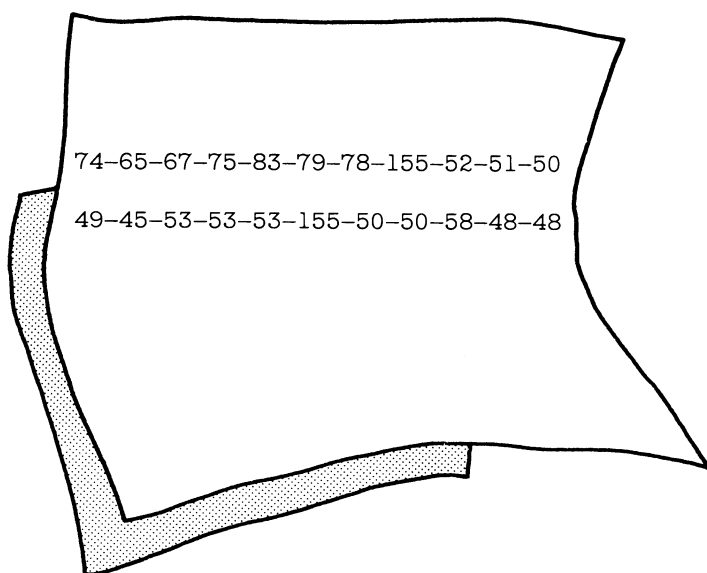
She read the numbers. "This is different. The middle line is just numbers."
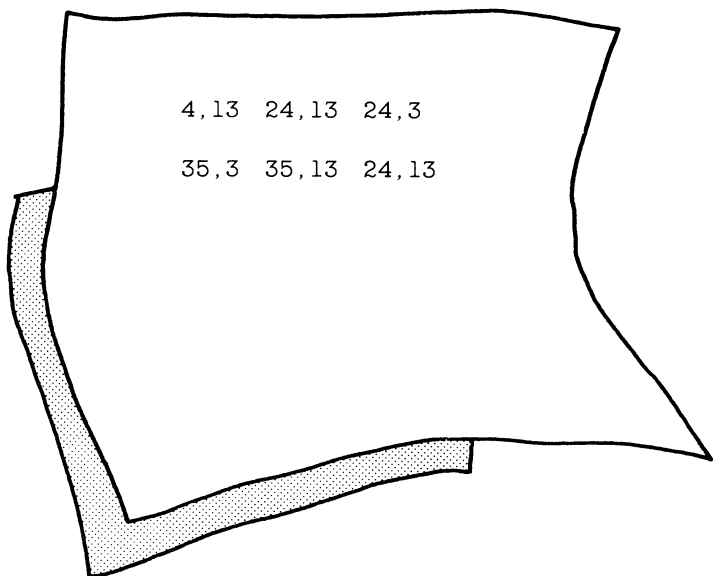
"I can't help that," said Adam. "Garbage in, garbage out."

Nikki wrote the message down on a piece of paper.

"This last list is much shorter than the others. It looks like pairs of numbers," Adam commented as they stared at the messages lying on the bed. They were both puzzled. What could these messages mean?

```
4,13  24,13  24,3

35,3  35,13  24,13
```

A Second Look

"I wish we knew if we were in the right room so we could unpack." Adam was getting restless. "Here's Dad's list of names for reservations." They both noticed that it was full of changes and arrows pointing to room numbers. All but two or three of the names were checked off.

"What a mess," said Nikki. "Dad is really having a problem with those reservations."

"Hey, I could use my list maker program to help keep track of the reservations," said Adam.

"Dad would probably appreciate that," agreed Nikki. "Besides, you haven't found a good use for that program yet.

Adam gave his sister a dirty look. Nikki just smiled sweetly. He loaded the list maker program and made a few additions; then he ran the program to see the list of reservations appear on the TV screen.

ROOM	STATUS	NAME
301	OK	ROBERTSON
302	OK	CALVIN
304	N/A	JONES
403	OK	BENNETT
404	CANCEL	SMITH
405	N/A	VAN DRIESSEN
503	OK	DIAZ
504	OK	US
505	OK	SAUNDERS

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"We probably shouldn't unpack yet," said Nikki. She pointed to the room correction on the list. "According to this, we're in the wrong room."

"We forgot to ask about a place to eat," she added, "but it doesn't look like we can count on Dad joining us."

301 Robertson 3:00 OR
302 Jones ⋯ 8:00
304 Calvin OK
403 Saunders OK
404 Smith cancel
405 Van Driessen
503 Diaz 9:00
504 Vs OK
505 Bennett OK

438-1212
413-1246

"Why don't we check at the desk and see if Dad left us a message," suggested Adam. "I'll write Dad a note." Adam wrote a note for their Dad and then put on his shoes.

"Good idea," Nikki said as she waited by the door for Adam.

Discovery in the Lounge

The elevator stopped at the lobby and, as the doors opened, Nikki and Adam were shocked by what they saw. The entire lobby was swarming with police and ambulance attendants. Guests of the hotel were trying fruitlessly to weave their way through the crowd to the front desk.

Suddenly, two policemen came out of the lounge followed by two paramedics carrying a stretcher. One of the policemen called across the lobby to someone at the desk. "The bartender is hurt pretty badly. Can the lady wait for the next ambulance?"

"Can he talk?" the man asked.

"No, he's unconscious," the policeman replied.

"She'll do OK here for a while, but hurry." The replies were given by a man in a shirt and tie carrying his jacket.

Nikki and Adam couldn't see their Dad in the crowd of people. It didn't look like it would be easy to get to the desk either. They edged their way around the other side of the lobby. Nikki peeked into the lounge. It was empty. A strange colored glow from behind the bar attracted her attention.

"Where are you going?" asked Adam.

"To see what that glow is," answered Nikki. It was the computer behind the bar. It had been left on.

"Keep your head down," whispered Adam. "Somebody might see us." Nikki crouched down. Adam crept up next to his sister and studied the display.

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"It looks like some kind of translator program. There's a message here," said Adam.

"GET HIS MESSAGES," read Nikki.

Nikki pressed the **SYSTEM RESET** key to clear the screen and then typed something on the computer.

"What are you doing!" Adam hissed. "Everybody in the place will hear that." Nikki had started the printer that Adam hadn't seen. It was buzzing off a list of the program. Adam jumped down behind the bar, knocking over a small trash can. That made more noise than the printer. He slowly peeked over the edge of the bar. No one seemed to have heard, but Adam kept watch.

"Look at this!" Nikki could hardly contain her excitement as she looked at the papers spilled out of the trash can. "It looks like messages and codes like the ones we found in the hallway!"

"You're right!" exclaimed Adam. He searched through the rest of the spilled basket. "Disgusting," he whispered with a grimace and stuck out his tongue. But there they were, more listings of numbers, crumpled up and just a little wet. Nikki took the listing from the printer while Adam gathered up the papers from the trash can. They quickly sneaked out of the bar.

Back in their room, they felt sure that no one had seen them come or go.

Nikki typed in the program they had found in the bar.

```
10  REM WORD TRANSLATOR
20  GRAPHICS 0:C=PEEK(560)+PEEK(561)*256
30  POKE C+3,70:FOR X=6 TO 8:POKE C+X,6:NEXT X
40  POKE 708,30:POKE 709,0:POKE 710,154:POKE 712,64
50  POKE C+16,48:POKE 87,1
60  PRINT #6:PRINT #6;"  WORD TRANSLATOR"
100 POKE 87,0:DIM W$(120)
110 POSITION 2,5:PRINT "TYPE YOUR PHRASE":? :INPUT
    W$
120 W$(LEN(W$)+1)=" ":L=1:POSITION 2,14
130 FOR X=1 TO LEN(W$)
140 IF W$(X,X)<>" " THEN 170
150 FOR M=X-1 TO L STEP -1:PRINT W$(M,M);:NEXT M
160 L=X+1:PRINT " ";
170 NEXT X
180 PRINT :END
```

Adam was a faster typist but he'd have to make so many improvements that he'd take twice as long to enter the program. He stood over her shoulder and made a few suggestions. She ignored him. When Nikki was finished she listed the program to see if it looked correct.

"Adam, remember those jumbled letters from the pieces of paper we found in the hallway? Remember, the middle line looked like a foreign language? Read the middle line from the first list to me."

Adam picked up one of the old lists with the notes they had made on it and read the middle line, "TROPRIA RAC LATNER." Nikki pressed the **RETURN** key after all of the letters were typed in.
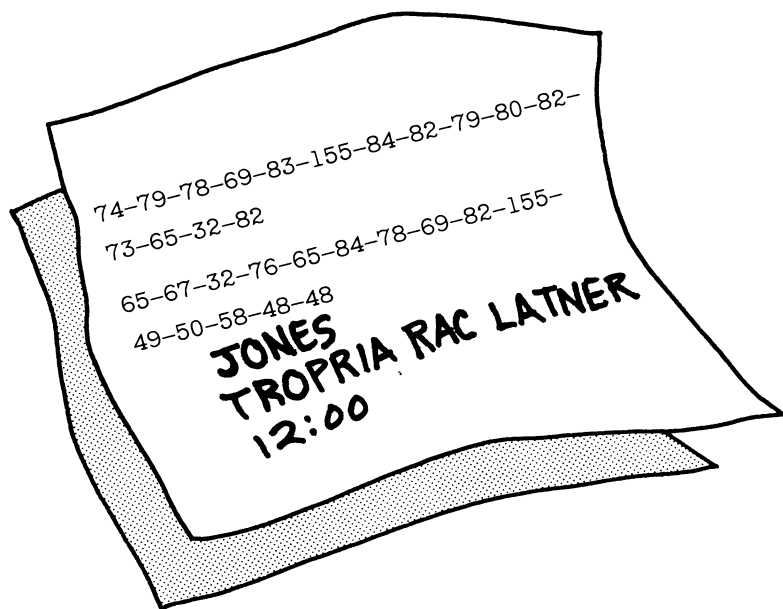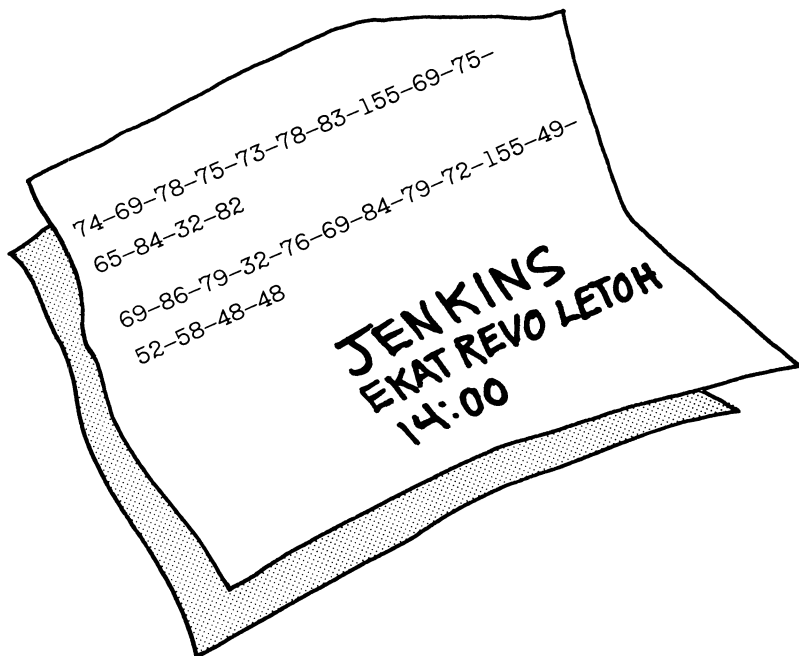

"Well, that's the first message," said Adam. "AIRPORT CAR RENTAL."

"How do you know that it's the first message?" asked Nikki.

"See the number at the end of the message? It's the lowest," Adam explained.

"Maybe." Nikki wasn't convinced but she didn't have any other ideas. "Read the second message." She typed the message into the computer as Adam read the letters.

74–69–78–75–73–78–83–155–69–75–
65–84–32–82
69–86–79–32–76–69–84–79–72–155–49–
52–58–48–48

JENKINS
EKAT REVO LETOH
14:00

"That looks serious," gasped Adam. "We should tell the police."

"It's interesting," said Nikki, "but what would we tell the police and would they believe it? Let's type in the third one."

"There's no point." Adam was frustrated. "It's just more numbers. This program works on letters. Besides, we have the three lists of numbers from the trash can to decode. Maybe then we will have something specific to tell the police."

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74–65–67–75–83–79–78–155–52–51–50
49–45–53–53–53–155–50–50–58–48–48

JACKSON
4321-555
22:00
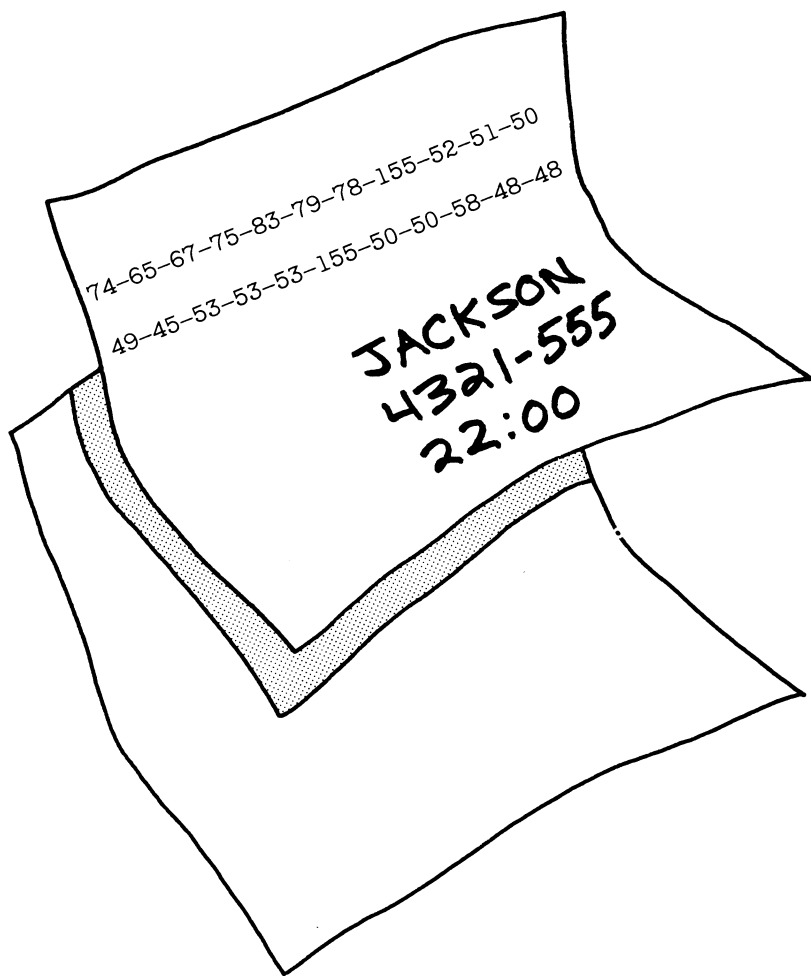
More Codes

Adam typed NEW and loaded the CODE BREAKER program.
  Nikki examined the wet papers from the trash in the bar. More code, in fact three more coded messages.

74-69-78-75-73-78-83-155-84-69-
71-32-83-73-72
32-83-69-71-65-83-83-69-77-155-
49-54-58-48-48

74-79-78-69-83-155-80-65-78-68-73-
75-32-78-65
36-32-78-69-83-83-69-73-82-68-
155-49-54-58-48-48

74-65-67-79-66-83-79-78-155-84-
69-69-77-32-84-65
32-69-82-85-84-80-76-85-67-83-
155-49-57-58-48-48
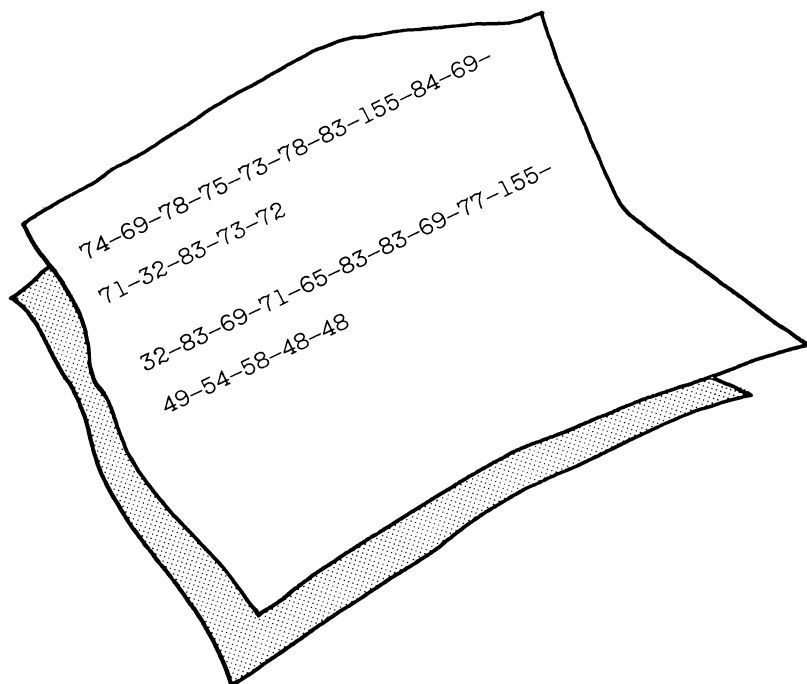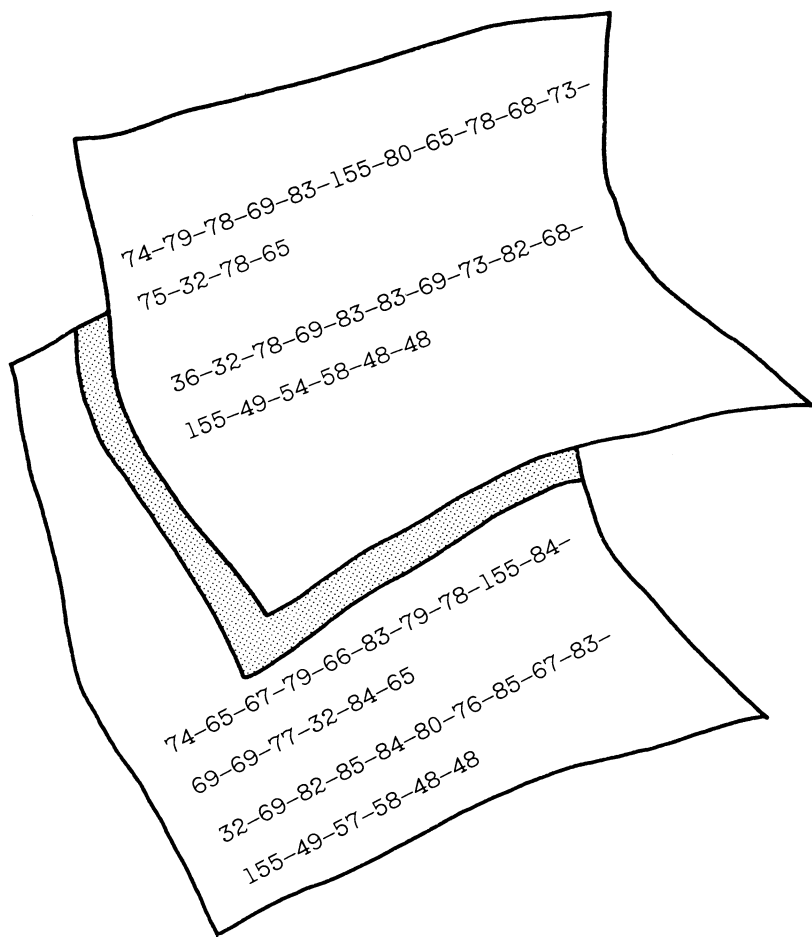
"It's a good thing we've been saving these programs, otherwise we'd have to type them in again." Nikki read the numbers from each of the pieces of paper. Adam typed the numbers into the computer and Nikki wrote the decoded messages on a separate piece of paper.

They finally had the three messages decoded. Now they needed to translate the middle line in each message.

Adam typed NEW and loaded the translator program. He entered the middle line for each of the new messages. They now had six decoded messages. They were all three lines long.

"Now it's all straight," said Adam triumphantly.

"Such as it is," Nikki said uncertainly. "It looks serious, but what do we really know?"

"We don't know that this happened at this hotel or happened at all. It's just a bunch of messages," admitted Adam. "But we need to give it to the police for sure."

Nikki wasn't convinced. Adam suspected that his sister wanted to find out for herself, and he was right.

On to
Something Big

Nikki and Adam studied the messages.

Two of the messages were ominous—one especially. Two messages remained a mystery: the message with the number pairs and the message with the numbers in the middle line.

4,13   24,13   24,3
35,3   35,13   24,13

JACKSON
4321-555
22:00
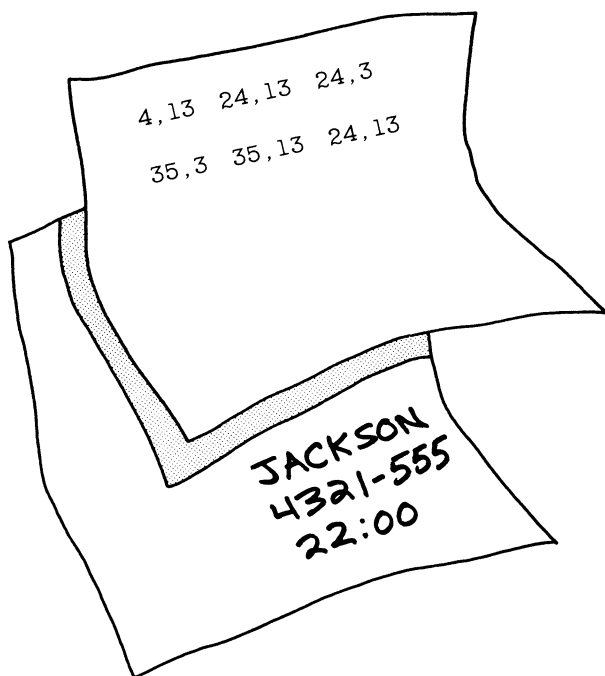
Adam's idea came first. "What about your graphics analyzer, Nikki?"

"You mean that program that only plots points on the screen?" asked Nikki. Adam had taken a simple little program she had written some time ago and turned it into something Nikki couldn't begin to describe. "Graphics analyzer, ha," thought Nikki aloud, "What will that do?"

"Maybe the pairs are points on a graph or something. Maybe a shape," suggested Adam.

Nikki loaded the program.

```
10  REM GRAPHICS ANALYZER
20  GRAPHICS 0:C=PEEK(560)+PEEK(561)*256
30  POKE C+3,70:FOR X=6 TO 8:POKE C+X,6:NEXT X
40  POKE 708,30:POKE 709,0:POKE 710,26:POKE 712,130
50  POKE C+24,48:POKE 87,1
60  PRINT #6:PRINT #6:" GRAPHICS ANALYZER"
100 POKE 87,0:T=49
110 TRAP 110
120 POSITION 2,18:PRINT "TYPE X,Y POSITIONS          "
130 POSITION 20,18:INPUT X,Y
140 POSITION 2,19
150 FOR J=1 TO 30:PRINT CHR$(32);:NEXT J
160 IF Y>15 OR Y<1 THEN 200
170 IF X<1 OR X>39 THEN 200
180 POSITION X-1,Y+1:PRINT CHR$(T+128):T=T+1
190 GOTO 110
200 POSITION 6,19:PRINT "**INCORRECT POSITION!**"
210 GOTO 110
```

Nikki ran the program and commented, "Maybe you're right—it's different than I remembered. Read those number pairs to me."

Adam read the first number pair. "Four comma thirteen." Nikki entered the two numbers separated by a comma and pressed the RETURN key.

Adam read the remaining numbers to Nikki. A total of five numbers showed on the screen. It was then they noticed that the second and last pairs were the same.

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"Maybe it's a map," Nikki said as she stared at the TV screen. She got out the map of Chicago. It was hopeless. "There are thousands of streets," Nikki sighed.

Adam was looking at the hotel brochure.
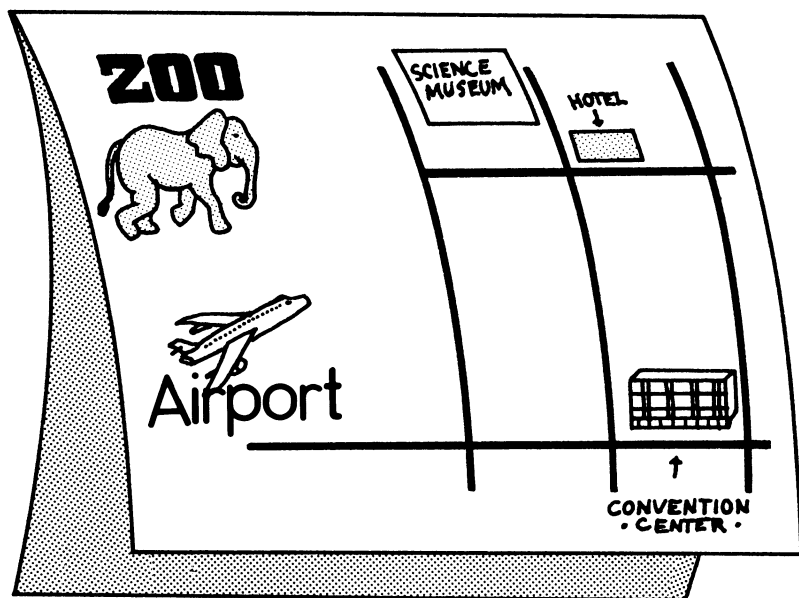
It was still hopeless. The brochure showed the airport and the route to the hotel and a few other places like museums and the convention center. But there wasn't enough detail on the map to match what they saw on the screen.

There was a moment of silence.

Nikki started to shuffle the six similar looking messages. "Maybe you're right about these being in order. The number in the last line could represent the time. You know, like military time," Nikki said.

"Maybe we can match the places on the messages to the map on the TV screen," Nikki continued. "So far, the places we know from the messages are the airport, the hotel, and a sculpture. We know the location of the airport and the hotel. Let's ask at the desk about the sculpture."

Nikki picked up the phone and called the desk. "We were wondering if you can tell us if there is a sculpture near here?" She shook her head as she listened to the response. She hung up the phone and explained to Adam that there was a famous sculpture down past the railroad tracks.

By this time it was a little after six o'clock, and it occurred to Adam what she was really thinking. "I really think we should tell the police, Nikki."

"It wouldn't hurt to check out the meeting place just to be sure," Nikki suggested thoughtfully. "Besides, we're likely to see a place to eat while we do."

"Nikki, we have no idea how far it is." Adam complained.

"If it's too far we'll eat someplace close." Nikki added.

"OK." He wasn't likely to change his sister's mind and he was hungry, too. Adam wrote a note for their Dad explaining that they were going out to eat. Nikki waited for Adam to put on his shoes.

In front of the hotel Adam pointed at the map and asked, "Should we go here?" He wanted to be sure Nikki was sure. When Nikki shook her head yes, Adam turned the map to point in the direction they should walk. "Let's go."

"We'll have to hurry. It's getting dark." They crossed a bridge over what looked like hundreds of train tracks. "I think it's a lot closer than it looks," said Adam.

"What do you mean, Adam?"

"There it is," pointed Adam. They looked at each other and at the large sculpture.

"Look, we're really not that far from the hotel and there's a place to get a hamburger," said Adam. They took a table by the window so they could see the sculpture.

Adam could see the clock in the restaurant; it was almost seven. Maybe they had walked longer than they thought.

Adam saw him first. He was too far away right now but as he walked closer Adam was sure that the man was the porter from the hotel. Nikki saw him, too, but she also thought she saw the bartender. But she couldn't be sure. Adam was glad he had finished his hamburger. He couldn't eat a thing now. "We must tell the police, now, Nikki."

40
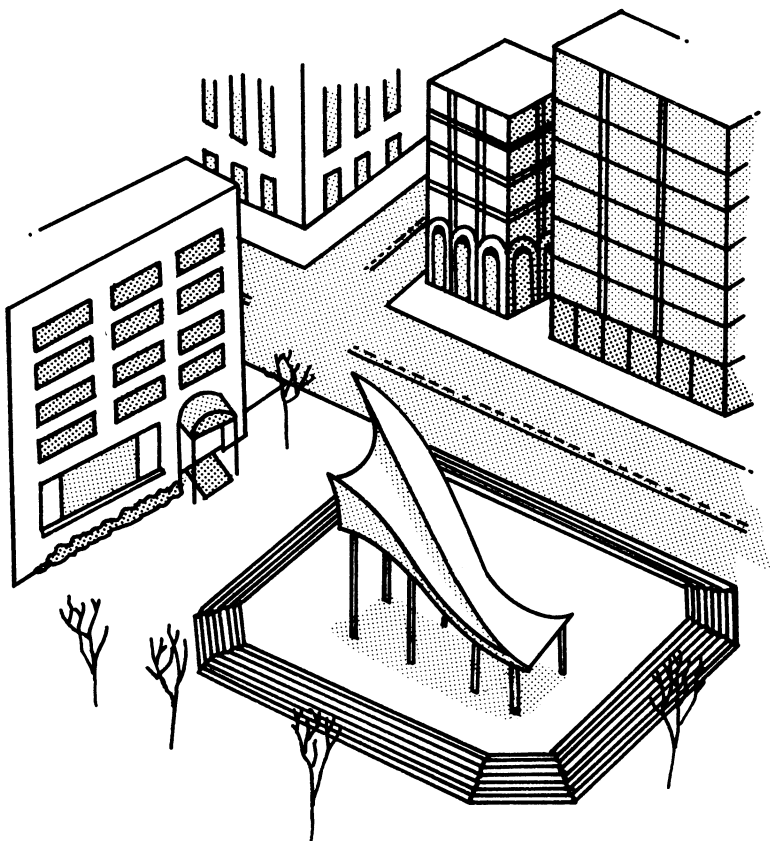
Just then a car pulled up and the men got in and drove away. They both strained to see, but it was already too dark and too far away to see the license plate. Adam and Nikki walked over to where the men had been standing. They knew better than to think they would find another clue, code, or program. They had had too much luck already. They started walking back to the hotel.

"We've got to tell the police, now." Adam thought he was beginning to sound like a broken record.

"Right," Nikki finally agreed. "Especially since we now know they're the same men from the hotel."

It was getting darker and, when the street lights came on, they began to hurry but they both knew they were not going to the hotel.

41

Informing the Police

"We want to report a kidnapping," Adam said to the policewoman at the desk. The desk was high and they had to look up at her.

The policewoman stared down at them quizzically. "When did this happen?" she asked.

"About 4:00," answered Nikki.

"Did you actually see it happen?" she asked, a little skeptically.

"Well, no," Adam hesitated. Neither he nor Nikki really knew where to begin.

"Who do you think has disappeared?" she asked.

"Well, we don't know him personally but we think we know who did it," Nikki replied lamely.

"Look, there really has to be evidence of a crime before we can do something," explained the policewoman.

Adam interrupted, "We think they're the same people that were at the hotel."

The policewoman gave Adam a long stare. "Sergeant Donovan!" she yelled back behind the desk. Out came the same man they had seen at the hotel. "These kids might have some information about your hotel business."

"We could use some information," he said. "Come on over here. He motioned them back behind the desk.

"We think there has been a kidnapping," Adam repeated for the detective and added, "at the hotel."

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Nikki pulled out all of the copies of the messages they had decoded and gave them to the detective.

"Well," Sergeant Donovan said after studying the messages for several minutes. "One of these times matches information the desk clerk gave us."

"We saw the men again." Nikki explained how they had followed the map to the sculpture.

The detective seemed impressed, but his tone was serious. "You should have brought this information to us sooner. Following the map was a little foolish."

"We know that now," said Adam, a little embarrassed. Nikki was always doing this to him. He gave her a side glance. She was smiling.

Nikki had already decided that maybe they shouldn't say anything about exactly how they found the papers behind the bar, but Adam did. He was always doing this to her.

But this time Sergeant Donovan seemed to understand that they had to take the codes back to their room to decode. "And we did come straight here when we saw the men again."

"Well, good work." The detective called in a policeman and explained briefly what was going on. "You didn't come up with any clues about this message with the numbers?" he asked finally.

"No, sir," Nikki and Adam were still puzzled, too.

"Make copies of these and have the messages typed on another piece of paper," he said to the policeman. He turned to Nikki and Adam and smiled. "We were sure confused about this incident. The bartender was hurt pretty badly, but we didn't know why. No robbery or anything obvious. Now we have a possible kidnapping to work on. You kids are sharp."

The policeman returned with the copies of the lists. The detective handed them a copy. "We're going to keep the original, if you don't mind. The printout on some of these lists looks as if there's a pin not working on the printer. If we can match it up to the kidnappers' printer, it will make good evidence." Adam and Nikki hadn't noticed that. Sergeant Donovan was sharp. "Escort these young people back to their hotel," he said to the policeman. The detective gave them his card with his name and telephone number.

"Pleased to," the policeman responded. They followed the policeman out the door. The hotel was only across the street. When they entered the hotel, the policeman went straight to the desk. He told the manager what they had found and how they had decoded the clues using a computer. The manager was impressed.

"Maybe you could help me get this thing started again?" said the manager. "Those people that took over messed up everything. The telephones and even the hotel booking program on our computer don't work. If the clerk was still here I'm sure she could get it going."

Adam and Nikki took a look. They could see that the manager had typed several letters which resulted in error messages. Adam typed RUN. Their heart sank. There on the screen was another program with the same colored screen they had seen before. "COLOR KEY" it said.

Adam took a quick look at the labels on the disks in the drives. The disks contained the hotel programs. "Let's get a copy of this before we start his programs." Nikki listed the program to the printer. When it was finished, Adam turned the computer off and back on again. The hotel booking program loaded automatically and the manager was back in business. "I never could figure these things out," complained the manager.

The Color Codes

As soon as they got back to their room, Adam sat down to type in the program they discovered at the desk. "Looks like a game, Nikki," he said as he entered the program lines. "They really did some fancy things here to make it work."

```
10   REM COLOR KEY
20   PMBASE=PEEK(106)-4:POKE 106,PMBASE-1
30   GRAPHICS 0:C=PEEK(560)+PEEK(561)*256
40   POKE C+3,70:FOR X=6 TO 8:POKE C+X,6:NEXT X
50   POKE 708,30:POKE 709,0:POKE 710,154:POKE 712,64
60   POKE C+22,48:POKE 87,1
70   PRINT #6:PRINT #6;"   COLOR KEY"
100  FOR X=512 TO 1024:POKE PMBASE*256+X,0:NEXT X
110  FOR M=0 TO 3
120  FOR X=40 TO 60
125  POKE PMBASE*256+512+M*128+X,255
130  NEXT X
135  NEXT M
140  POKE 559,46:POKE 53277,3:POKE 54279,PMBASE
150  FOR C=0 TO 3
160  POKE 53248+C,40*C+54:POKE 704+C,0:POKE
     53256+C,3
170  NEXT C
180  POKE 623,1:POKE 87,0
200  DIM A$(10),A(4),B(4)
210  READ A,B,C,D
```

```
220  A(1)=A:A(2)=B:A(3)=C:A(4)=D
230  FOR X=0 TO 3
240  POSITION X*10+2,11:READ A$,F:PRINT X+1;"-";A$
250  NEXT X
260  FOR X=4 TO 7
270  POSITION (X-4)*10+2,12:READ A$,F:PRINT
     X+1;"-";A$
280  NEXT X
285  FOR G=2 TO 32 STEP 10
290  POSITION G,5:PRINT "CORRECT"
295  NEXT G
300  RESTORE 440
310  POSITION 2,16
320  PRINT "TYPE THE FOUR COLOR CODES"
330  PRINT "(EXAMPLE: 1,4,6,2)":PRINT :INPUT A,B,C,D
340  B(1)=A:B(2)=B:B(3)=C:B(4)=D
350  FOR L=1 TO 4
360  T=A(L):RESTORE 440
370  FOR X=1 TO T:READ A$,F:NEXT X
380  IF B(L)<>A(L) THEN 400
390  POKE 703+L,F:GOTO 410
400  POKE 703+L,0
410  NEXT L
420  GOTO 300
430  DATA 3,2,4,7
440  DATA ORANGE,60,RED,74,BLUE,134,GREEN,188
450  DATA VIOLET,104,WHITE,14,YELLOW,30,GRAY,6
```

"That makes more sense than another code program," said Nikki. "I wonder what those numbers meant?" Nikki hummed a tune.

"Twinkle, Twinkle Little Star! That's it! Where's your melody program?" Nikki ran over next to her brother. "Load it up."

"Wait a minute. I'm almost finished with this," Adam said. He typed a few more lines.

"We can call the same number that the phony desk clerk did," explained Nikki. "All we have to do is use melody maker."

Adam wasn't impressed. "You've got it backwards, Nikki. You have to know the numbers before it will work."

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Adam typed a few more lines as Nikki watched. Adam typed RUN. The program seemed to pause for about 15 seconds. Suddenly the screen came alive.

"Interesting display," Nikki said. "They use some memory locations to do some pretty fancy things. I'll have to look them up in that graphics book Dad got us when we get back home."

"What do you do?" asked Nikki.

"Well, it looks like you type in four numbers for the colors and then see what happens," answered Adam.

Adam typed 1,2,3,4. The word "correct" appeared over one of the colors.

Adam tried more numbers but left the correct one the same. He typed 5,2,6,7. Another color correct!

They experimented until they found all four colors.

"COLOR KEY," mumbled Adam. "I wonder why the program is called COLOR KEY?"

"Let's try it again," said Nikki.

Adam pressed **SYSTEM RESET** and typed RUN. They tried a few numbers but they soon noticed that it was the same pattern. "Not much of a game," said Adam. He listed the program and studied it. So did Nikki.

"Well, this is why," cried Nikki as she pointed at the listing of the program. "It's just like your dumb list maker program." Adam had to take too many insults from Nikki. "It's just reading a DATA statement. Here, I'll change it."

Before Adam could protest she had changed the DATA statement in Line 430 and had typed RUN. "Guess those," she laughed.

He worked quickly. "This would be a good game for little kids," Adam said. "Type in a different list for me."

"It figures," said Nikki. Frequently Adam didn't pick up on insults. He tried the game again.

"I got it again. Give me a different set," said Adam.

"Oh, wow," moaned Nikki as sarcastically as possible. "Can't the great programmer do it randomly, somehow, on his own?"

"Good idea."

Nikki figured that would keep him busy for a while. But to her surprise, Adam only changed one line.

```
220  FOR X = 1 TO 4 : A(X) = INT(RND(0)*8) + 1 : NEXT X
```

He typed RUN. Adam exclaimed, "I've done it. We have a nice new
guessing game." Nikki had to admit it—her brother was a very good
programmer.

A Phone Call

"Twinkle, Twinkle Little Star! Now pay attention this time. Where's your melody program?" asked Nikki.

"Wait until I save this program," Adam responded. He typed a few more lines to polish up the COLOR KEY program.

"We can call the same number that the phony desk clerk did," explained Nikki, again. "All we have to do is use melody maker."

Adam still didn't understand. "You've still got it backwards, Nikki. You have to know the numbers to make it work," Adam explained again.

"So what. We'll just experiment a little and figure it out." Nikki was becoming impatient.

Finally, Adam understood. He quickly loaded melody maker, forgetting to save the changes he had done on the COLOR KEY program.

```
10  REM MELODY MAKER
20  GRAPHICS 0:C=PEEK(560)+PEEK(561)*256
30  POKE C+3,70:FOR X=6 TO 8:POKE C+X,6:NEXT X
40  POKE 708,30:POKE 709,0:POKE 710,26:POKE 712,130
50  FOR X=12 TO 20 STEP 2:POKE C+X,0:NEXT X:POKE
    87,1
60  PRINT #6:PRINT #6:"   —MELODY MAKER—"
100 DIM A(10):Z=1:POKE 87,0:POKE 752,1
110 OPEN #2,4,0,"K:"
```

```
120 FOR Z=1 TO 10
130 POSITION 2,15
140 PRINT #6;"PRESS NUMBER KEY (RETURN TO STOP)";
150 GET #2,N:N=N-48:IF N=107 THEN 300
160 IF N<1 OR N>9 THEN 130
170 RESTORE 190
180 FOR X=1 TO N:READ T:NEXT X:A(Z)=T:V=10-N
190 DATA 121,108,96,91,81,72,64,60,53
200 SOUND 0,T,10,10:GOSUB 400:SOUND 0,0,0,0
210 IF V/2=INT(V/2) THEN 260
220 POSITION Z*3,12:PRINT N
230 POSITION Z*3,V/2+4:PRINT ;CHR$(21)
240 POSITION Z*3,V/2+5:PRINT ;CHR$(149)
250 GOTO 280
260 POSITION Z*3,12:PRINT N
270 POSITION Z*3,V/2+5:PRINT #6;CHR$(160)
280 NEXT Z
300 FOR B=1 TO Z-1
310 SOUND 0,A(B),10,10:GOSUB 400:SOUND 0,0,0,0
320 NEXT B
330 POSITION 2,15
340 PRINT #6;"PRESS ANY KEY TO REPEAT THE MELODY"
350 GET #2,A:GOTO 300
400 FOR WAIT=1 TO 100:NEXT WAIT:RETURN
```

Adam ran the program. He then pressed the number 1 key on the computer. It made a sound and printed on the TV screen. As Nikki hummed "Twinkle, Twinkle Little Star," Adam pressed the numbers 1 . . . 3 . . . 3 . . . 5 . . . 5 . . . 3. "That didn't sound quite right."

Adam pressed SYSTEM RESET and ran the program again. This time he entered 1 . . . 1 . . . 5 . . . 5 . . . 6 . . . 6 . . . 5. . . .

"That's it'" cried Nikki. "Press RETURN to play it again."

"That can't be right, Adam protested. "Telephone numbers like that can't begin with one."

"Let's add one to each." They entered it again. It sounded OK but it still couldn't be a telephone number.

"Let's add one again." This time it didn't sound like the tone. But it made a reasonable looking number.

"Let's just add one again," Nikki insisted.

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"This is the last time we can do it," warned Adam. "The numbers will go off the scale."

"That sounds good and also makes a good number," smiled Nikki, who was looking in the phone book. "The first three numbers match some of the numbers in the telephone book." Nikki dialed the number.

Adam was worried again but he got close to the phone to listen. The recorded voice said:

"Jacobson Laundry. Open 9 'til 5 every Monday through Saturday. Open until 7 on Tuesday and Thursday. Please leave a message at the tone—beep."

Nikki hung up. Adam got the phone book. He looked up "Laundry" in the Yellow Pages and found Jacobson Laundry and the address.

"Jacobson, that's the name on one of the messages. Let's call the police," Nikki said. Adam held the receiver while she dialed.

"Police department."

"This is Adam."

"Adam who?" said the voice. Nikki prodded him. But before he could say anything else the voice said, "Oh, I know. I'll get Sergeant Donovan."

"Hi, have you found something else? Most of the information has lead us to dead ends. We checked out Van Driessen. He is supposed to be here but he's not." The detective confirmed their suspicion.

"We just called a number that turns out to be Jacobson's Laundry," said Nikki.

That's all Sergeant Donovan needed to hear. "I'll be right over to get you."

"We'll meet you in the lobby," said Nikki.

Adam wrote another note for their Dad. It said not to worry and that they would be right back.

"Hurry up, Adam," said Nikki. "Sergeant Donovan will be waiting."

Putting It All Together

Nikki and Adam met the detective in the lobby. "We called Jacobson Laundry ourselves. Just a recording," said Sergeant Donovan. He opened a map. "I've sent investigators to the Laundry. The Laundry is another point on your map." Nikki and Adam agreed.

Nikki and Adam explained what they had figured out. "First of all," said Adam, "we probably don't have all of the messages." The detective agreed. Adam took the hotel brochure from his pocket and made some notes on it.

"We now know that the Laundry is here," Adam said as he pointed to the place he had marked on the brochure. "We also know that the hotel and sculpture must be points four and five on our map."

Nikki continued to explain. "If we can trust that the map made with the number pairs matches each of the points we've shown, then there is only one place left." Nikki pointed to the circled place on the map.

Sergeant Donovan seemed convinced. He took his map and laid it on the floor in the center of the lobby. All three of them were down on their hands and knees plotting each of the points street by street. Finally, they zeroed in on the position of the only place they had not yet checked out.

"That's where we'll head next. But it won't be easy. That area is nothing but small apartment buildings," the detective said. "It'll probably be tough discovering anything. You two will have to wait here."
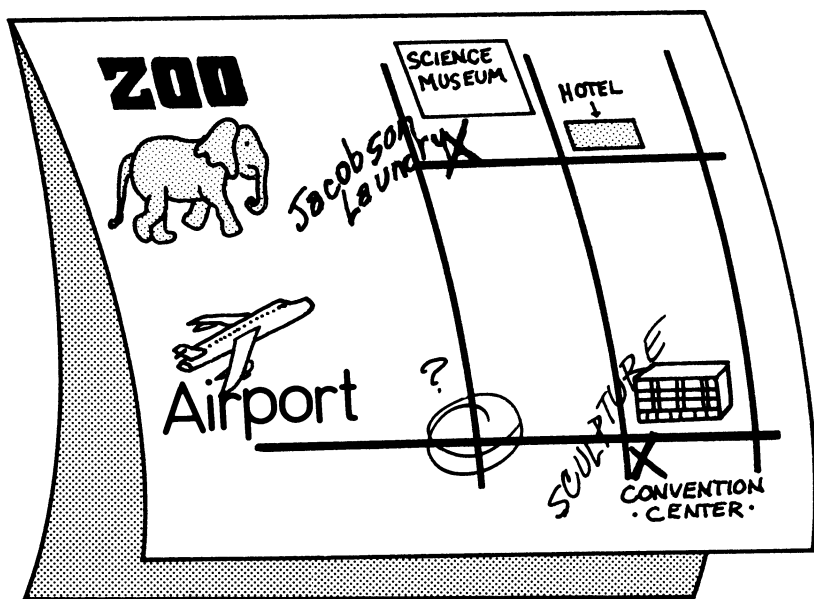
Nikki and Adam couldn't believe that. "What if you get another computer clue. Who would decode it?"

"No, it's too dangerous. We can't be responsible for bringing civilians along on official police business. Besides, how could you bring your computer?"

"We probably wouldn't need the computer, explained Nikki. "All the clues we have have been decoded."

"Well, all but one," corrected Adam. He could be so helpful, Nikki thought to herself, sarcastically. "But didn't we come up with the clues? And didn't we just do a good job of figuring them out?"

The detective looked at them thoughtfully and said slowly, "All right, but you'll have to wait outside in the car. We'll take two cars and call two more."

Nikki and Adam rode in the back of the same car that the detective drove. "What are you doing with those papers?" Nikki looked at her brother, annoyed.

Adam had all of the translated messages laid out on the seat between them. "I'm looking for another clue or pattern or any-

1100 W ST

JACKSON ST

TELEPHONE

-EPHONE
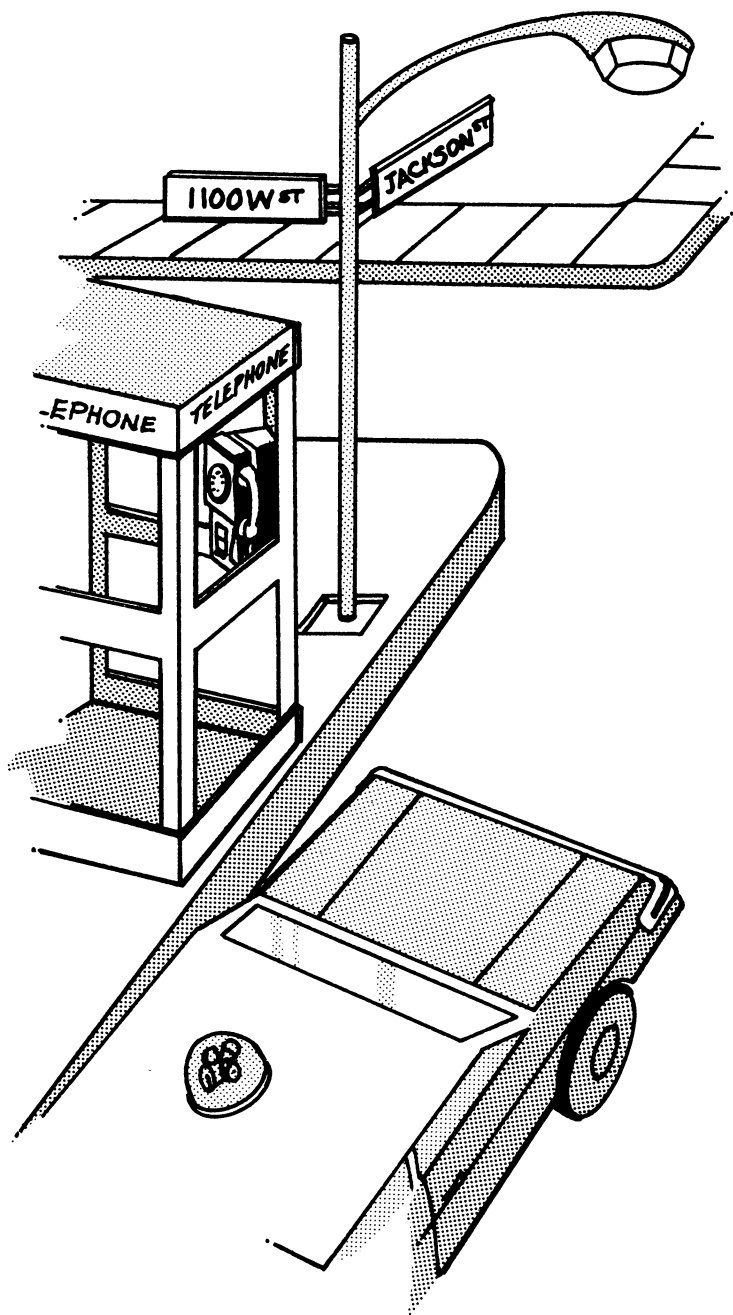
thing." She was quiet for a while, trying to watch as the buildings went by, but her mind wandered.

"Look at this!" Adam exclaimed, not paying attention. "These messages all have the same form."

"That's nothing new," Nikki said, thinking that it wasn't so clever.

"We still don't know what that line means." But Nikki was beginning to see the point.

"It does mean we probably entered it right, though," Adam added.

"OK. We're going to stop here. You should be safe. We're going to check out the street. But I know it. It's all old four story apartment complexes." Sergeant Donovan radioed his instructions to the other cars. Another police car arrived and parked behind them. "What did you say about those clues, Adam?" the detective asked.

Adam didn't seem to hear. "Adam saw a pattern in the messages," Nikki answered for him. "We think the strange one is right, but we don't know what it is." Adam explained the pattern to Sergeant Donovan, who was still as puzzled as they were.

The Rescue

Sergeant Donovan got out of the car. When he returned, Adam could hear the report: No abandoned buildings and nothing particularly unusual. By now it was really dark. "Check the phone book for the names to see if we can narrow it down. I'm going to take another look. You check up the alley," he motioned to another policeman.

"It's a telephone number. See, seven numbers! They're just reversed" Nikki showed Adam. They were alone in the car. "Let's try it," said Nikki.

There was a phone booth directly behind the car. Nikki and Adam cautiously got out of the car. "What are we going to say?" asked Adam.

"Nothing," said Nikki.

"Great," said Adam. "Maybe we should tell Sergeant Donovan first."

"Look at the time," said Nikki as she dialed the number. Adam saw that it was 9:45. He put his ear as close as he could to the phone.
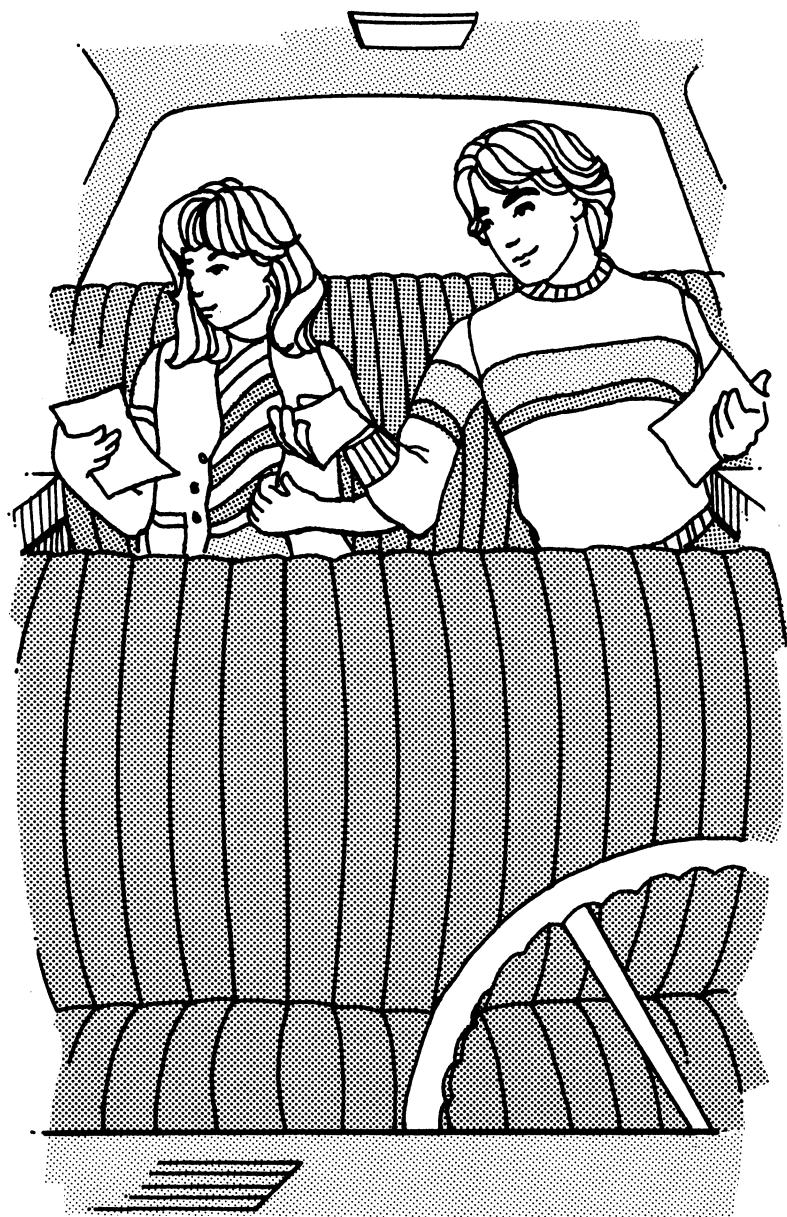
"North Side answering service," a voice said.

"Any messages for Jackson?" Nikki said, thinking quickly. Adam cringed.

"Who is this?" the voice said.

"I'm supposed to get messages for Mr. Jackson," answered Nikki quickly. Adam never ceased to be amazed at some of the ideas Nikki had, but this one made his heart sink.

"You mean, Mr. Jenkins?" asked the voice.

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"That's right, Jenkins." Nikki corrected herself quickly.

"I know it sounds silly," said the voice, "but do you have the Color Key?"

"Color Key?" Adam and Nikki stared at each other. "Just a second, stalled Nikki. They stared at each other again. Their minds were blank.

"You mean the four colors?" Nikki asked. She turned to Adam.

Adam knew what she wanted, but he had played with the program so much that he couldn't remember the original colors. He whispered to Nikki what he could remember.

Nikki repeated the colors to the voice. "Well, the red and the blue are turned around but it's close enough. Boy you get some real weirdos using this service; you're the third person to ask for this. Is it some kind of game?

"Yes," said Nikki. Adam could hear Nikki repeating the message. "Meet Jones and Jacobson at 1154, apartment A." After he heard Nikki repeat the message he could hear the voice apologize that there didn't seem to be a street. "That's OK," Nikki answered. "We know the street. Thanks." She hung up.

Sergeant Donovan was returning as they left the phone booth. He gave them a hopeless expression. Nikki ran to him with the message. He didn't bother to ask where she had gotten the information. He went straight to work on getting into the apartment.

"Wait," Nikki ran after him. "This is the wrong street. She pointed to the street sign. "The name on this last message wasn't the name of a person. It was the name of the street. See?"

They all looked at the street sign, "Jackson Avenue."

The detective sent police officers around to the back. He and another policeman would go around to the front. Nikki and Adam waited; they were a lot closer than they expected.

It was only a few moments until they saw the policeman coming out of the front of the building with several men. Three of the men had their hands cuffed behind them. Sergeant Donovan had his arm around the fourth as if to help him. He kept rubbing his wrists as if they hurt.

They couldn't believe it! Nikki and Adam ran and threw their arms around the fourth man. It was their Dad.

On the ride back he told them how the kidnappers had finally discovered that he was the wrong person and that was when he really started to worry. Their Dad explained, "The kidnappers had planned to hold Van Driessen only for a while, until the convention was over. They didn't want him to influence the outcome of the important votes by his speech. Computer crime is his specialty and that was what he was going to talk about at the convention, tomorrow."

Sergeant Donovan said, "These are some kids you have. They pieced together all the clues."

They had caught all the kidnappers. The names matched the lists. "All three work with computers at big companies in town. This will probably be just the beginning of an intensive investigation."

"You figured out clues?" exclaimed their father. "One of the kidnappers was really upset because he lost some of his messages and the other guy had carelessly thrown them away in the hotel. But, then they thought it was really funny because they thought no one could figure them out anyway. The joke was on them."

Their Dad explained what he knew. "Each of the kidnappers had five messages containing instructions for them to follow. Each knew the whole plan but not the last details of each step of the plan. The messages that they picked up at each point on the map told them only what they needed to know for the next step. The purpose was to be able to make changes as well as keep it secret."

When they arrived at the hotel, Van Driessen was waiting for them in the lobby. "Someone seems to be in my room," he said. He explained that an airport reservation mistake and a late plane had delayed his arrival for four hours. "Sometimes, the way computers get involved in these mistakes ought to be labeled a crime."

Nikki and Adam thought there might be one kind of computer crime that Van Driessen didn't know about.

Adam and Nikki's Dad explained about the foul up on reservations. The hotel manager had already explained how the kidnappers had disconnected the telephones and made a mess of the reservations. "Now I have more of a mess than ever to straighten out," their Dad said.

"Hey, Dad," said Adam. "We have a new computer game."

"Maybe we ought to just let Dad rest," said Nikki.

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Saving & Loading Programs

Nikki and Adam often save their computer programs. This is handy because they do not have to retype them again. Instead, they can load them back into the computer to use. If you have either a cassette program recorder or a disk drive, you may want to save the programs just as Nikki and Adam do. Just follow these directions.

Saving Programs

Disk Drive: Once you have typed a program into the computer you can save it on diskette by typing the following command:

SAVE"D:FILENAME.EXT" **RETURN**

You must give a name to your program. This is called the file-name. So, instead of using FILENAME.EXT for your program name, call it something you can remember. For example, if you were saving a program called MELODY MAKER you might type the following command:

SAVE"D:MELODY" **RETURN**

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But remember this rule. The filename must start with a letter and cannot be more than eight characters long. Also, the D: must always be placed in front of your filename.

Cassette Recorder: If you have a cassette recorder, place a blank cassette into the recorder and type the following command:

CSAVE **RETURN**

You will hear a beeping noise from the keyboard. Then press the **RETURN** key again and the program will start saving.

Loading Programs

Disk Drive: To get a program from the diskette back into the computer, type the following command:

LOAD"D:FILENAME.EXT" **RETURN**

This will load a program called FILENAME.EXT. If you were loading the MELODY MAKER, you would type the following:

LOAD"D:MELODY" **RETURN**

Cassette Recorder: To get a program from the cassette back into the computer, type the following:

CLOAD **RETURN**

You will hear the computer make a beeping sound. Press **RETURN** again and the program will begin loading.

For more information on saving and loading programs consult the *ATARI BASIC Reference Manual.*

Clues & Messages

Code Breaker Messages

THE MESSAGE IS:
JONES
TROPRIA RAC LATNER
12:00

THE CODE IS:
74-79-78-69-83-155-84-82-79-80-82-73-65-32-82-
65-67-32-76-65-84-78-69-82-155-49-50-58-48-48

THE MESSAGE IS:
JENKINS
EKAT REVO LETOH
14:00

THE CODE IS:
74-69-78-75-73-78-83-155-69-75-65-84-32-82-69-
86-79-32-76-69-84-79-72-155-49-52-58-48-48

THE MESSAGE IS:
JACKSON
4321-555
22:00

THE CODE IS:
74–65–67–75–83–79–78–155–52–51–50–
49–45–53–53–53–155–50–50–58–48–48

THE MESSAGE IS:
JENKINS
TEG SIH SEGASSEM
16:00

THE CODE IS:
74–69–78–75–73–78–83–155–84–69–71–32–83–73–72–
32–83–69–71–65–83–83–69–77–155–49–54–58–48–48

THE MESSAGE IS:
JONES
PANDIK NAV NESSEIRD
16:00

THE CODE IS:
74–79–78–69–83–155–80–65–78–68–73–75–32–78–65–86–
32–78–69–83–83–69–73–82–68–155–49–54–58–48–48

THE MESSAGE IS:
JACOBSON
TEEM TA ERUTPLUCS
19:00

THE CODE IS:
74–65–67–79–66–83–79–78–155–84–69–69–77–32–84–65–
32–69–82–85–84–80–76–85–67–83–155–49–57–58–48–48

Color Key

The correct entry is 3,2,4,7. These numbers represent the colors blue, red, green, and yellow.

Graphics Analyzer

Jacobson
Laundry   Hotel
3   4

Airport   Basement   Sculpture
1   2   5
            6
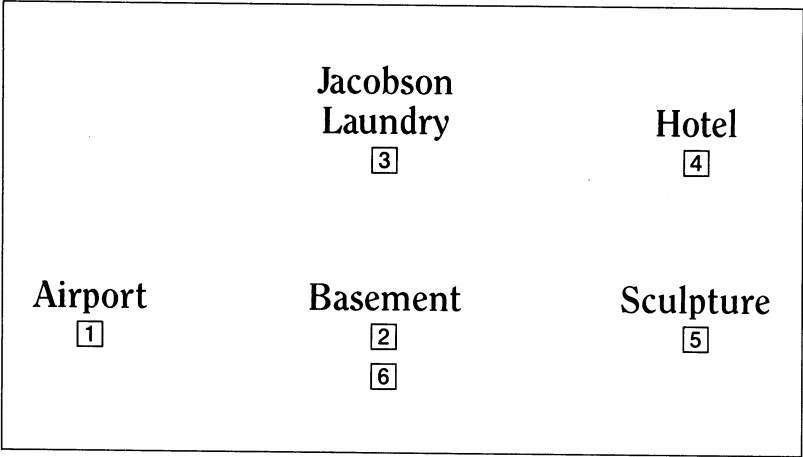
Melody Maker

The final correct entry is 4 . . . 4 . . . 8 . . . 8 . . . 9 . . . 9 . . . 8.

The Programs

List Maker

```
10   REM LIST MAKER
20   GRAPHICS 0:C=PEEK(560)+PEEK(561)*256
30   POKE C+3,70:FOR X=6 TO 8:POKE C+X,6:NEXT X
40   POKE 708,30:POKE 709,0:POKE 710,26:POKE 712,130
50   POKE 87,1
60   PRINT #6:PRINT #6;"    LIST MAKER"
100  DIM A$(10),B$(10)
110  POKE 87,0:POSITION 2,6
120  PRINT "NAME","ITEM","COST"
130  PRINT "————","————","————"
140  READ A$,B$,C
150  IF A$="END" THEN 200
160  T=T+C
170  PRINT A$,B$,C
180  GOTO 140
200  PRINT :PRINT "GRAND TOTAL IS",T
300  DATA ADAM,MAP,2.25
310  DATA NIKKI,SODA,.50
320  DATA ADAM,SODA,.50
330  DATA DAD,SODA,.50
340  DATA END,END,0
```

Code Breaker

```
10  REM CODE BREAKER
20  GRAPHICS 0:C=PEEK(560)+PEEK(561)*256
30  POKE C+3,70:FOR X=6 TO 8:POKE C+X,6:NEXT X
40  POKE 708,30:POKE 709,0:POKE 710,154:POKE 712,64
50  POKE C+15,48:POKE 87,1
60  PRINT #6:PRINT   #6;"   CODE BREAKER"
100  POKE 87,0:DIM A$(250)
110  TRAP 110:POSITION 2,5
120  PRINT "TYPE EACH CODE AND PRESS RETURN   "
130  POSITION 34,5:INPUT N:A$(LEN(A$)+1)=CHR$(N)
140  POSITION 2,12:PRINT A$
150  GOTO 110
```

Word Translator

```
10  REM WORD TRANSLATOR
20  GRAPHICS 0:C=PEEK(560)+PEEK(561)*256
30  POKE C+3,70:FOR X=6 TO 8:POKE C+X,6:NEXT X
40  POKE 708,30:POKE 709,0:POKE 710,154:POKE 712,64
50  POKE C+16,48:POKE 87,1
60  PRINT #6:PRINT   #6;"   WORD TRANSLATOR"
100  POKE 87,0:DIM W$(120)
110  POSITION 2,5:PRINT "TYPE YOUR PHRASE":? :INPUT W$
120  W$(LEN(W$)+1)=" ":L=1:POSITION 2,14
130  FOR X=1 TO LEN(W$)
140  IF W$(X,X)<>" " THEN 170
150  FOR M=X-1 TO L STEP -1:PRINT W$(M,M);:NEXT M
160  L=X+1:PRINT " ";
170  NEXT X
180  PRINT :END
```

Graphics Analyzer

```
10  REM GRAPHICS ANALYZER
20  GRAPHICS 0:C=PEEK(560)+PEEK(561)*256
30  POKE C+3,70:FOR X=6 TO 8:POKE C+X,6:NEXT X
```

```
40   POKE 708,30:POKE 709,0:POKE 710,26:POKE 712,130
50   POKE C+24,48:POKE 87,1
60   PRINT #6:PRINT #6;" GRAPHICS ANALYZER"
100  POKE 87,0:T=49
110  TRAP 110
120  POSITION 2,18:PRINT "TYPE X,Y POSITIONS    "
130  POSITION 20,18:INPUT X,Y
140  POSITION 2,19
150  FOR J=1 TO 30:PRINT CHR$(32);:NEXT J
160  IF Y>15 OR Y<1 THEN 200
170  IF X<1 OR X>39 THEN 200
180  POSITION X-1,Y+1:PRINT CHR$(T+128):T=T+1
190  GOTO 110
200  POSITION 6,19:PRINT "**INCORRECT POSITION!**"
210  GOTO 110
```

Color Key

```
10   REM COLOR KEY
20   PMBASE=PEEK(106)-4:POKE 106,PMBASE-1
30   GRAPHICS 0:C=PEEK(560)+PEEK(561)*256
40   POKE C+3,70:FOR X=6 TO 8:POKE C+X,6:NEXT X
50   POKE 708,30:POKE 709,0:POKE 710,154:POKE 712,64
60   POKE C+22,48:POKE 87,1
70   PRINT #6:PRINT #6;"   COLOR KEY"
100  FOR X=512 TO 1024:POKE PMBASE*256+X,0:NEXT X
110  FOR M=0 TO 3
120  FOR X=40 TO 60
125  POKE PMBASE*256+512+M*128+X,255
130  NEXT X
135  NEXT M
140  POKE 559,46:POKE 53277,3:POKE 54279,PMBASE
150  FOR C=0 to 3
160  POKE 53248+C,40*C+54:POKE 704+C,0:POKE 53256+C,3
170  NEXT C
180  POKE 623,1:POKE 87,0
200  DIM A$(10),A(4),B(4)
210  READ A,B,C,D
220  A(1)=A:A(2)=B:A(3)=C:A(4)=D
230  FOR X=0 TO 3
240  POSITION X*10+2,11:READ A$,F:PRINT X+1;"-";A$
```

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```
250  NEXT X
260  FOR X = 4 TO 7
270  POSITION (X - 4)*10 + 2,12:READ A$,F:PRINT X + 1;";-"A$
280  NEXT X
285  FOR G = 2 TO 32 STEP 10
290  POSITION G,5:PRINT "CORRECT"
295  NEXT G
300  RESTORE 440
310  POSITION 2,16
320  PRINT "TYPE THE FOUR COLOR CODES"
330  PRINT "(EXAMPLE: 1,4,6,2)":PRINT :INPUT A,B,C,D
340  B(1) = A:B(2) = B:B(3) = C:B(4) = D
350  FOR L = 1 TO 4
360  T = A(L):RESTORE 440
370  FOR X = 1 TO T:READ A$,F:NEXT X
380  IF B(L)<>A(L) THEN 400
390  POKE 703 + L,F:GOTO 410
400  POKE 703 + L,0
410  NEXT L
420  GOTO 300
430  DATA 3,2,4,7
440  DATA ORANGE,60,RED,74,BLUE,134,GREEN,188
450  DATA VIOLET,104,WHITE,14,YELLOW,30,GRAY,6
```
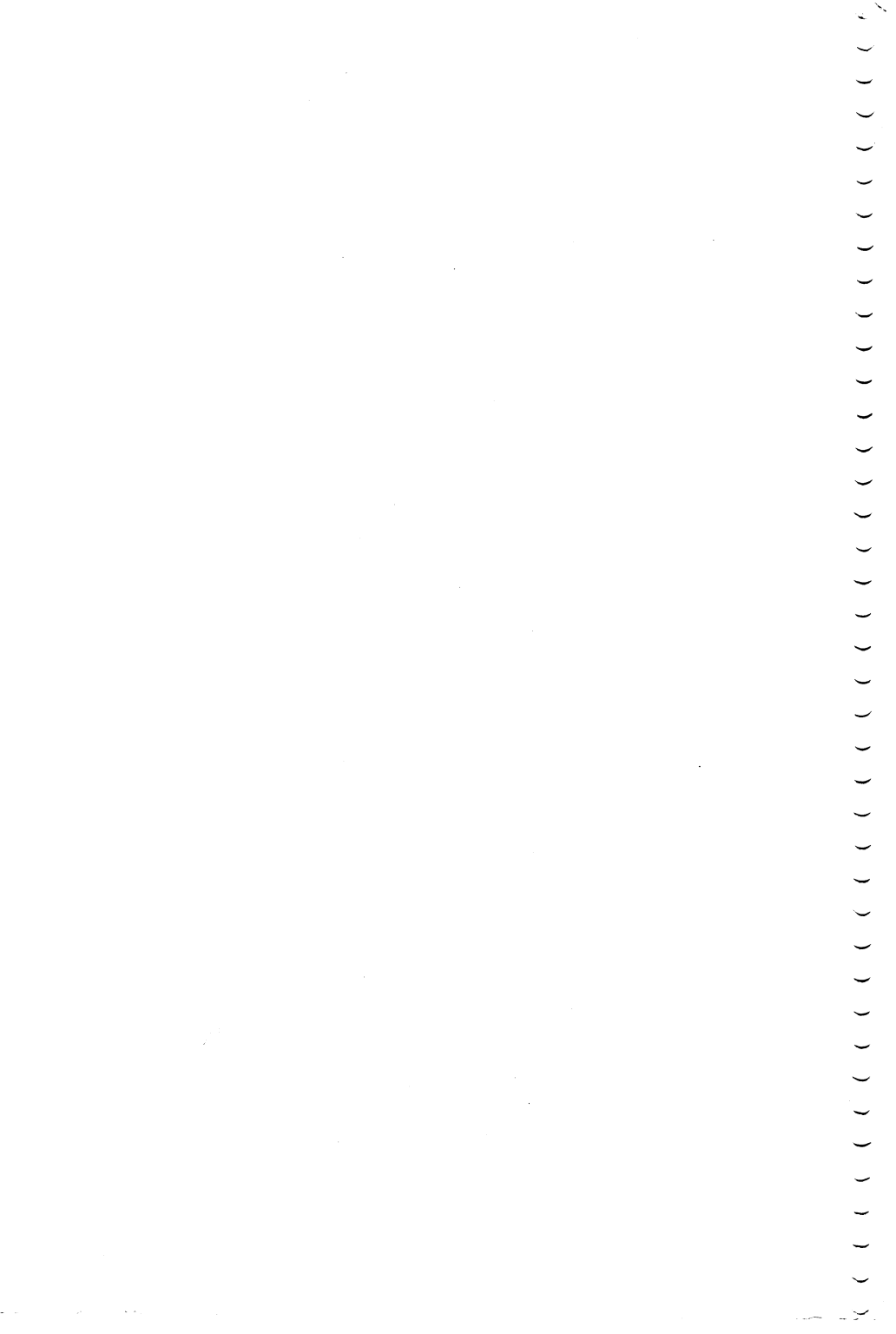
Melody Maker

```
10   REM MELODY MAKER
20   GRAPHICS 0:C = PEEK(560) + PEEK(561)*256
30   POKE C + 3,70:FOR X = 6 TO 8:POKE C + X,6:NEXT X
40   POKE 708,30:POKE 709,0:POKE 710,26:POKE 712,130
50   FOR X = 12 TO 20 STEP 2:POKE C + X,0:NEXT X:POKE 87,1
60   PRINT #6:PRINT #6;"    -MELODY MAKER-"
100  DIM A(10):Z = 1:POKE 87,0:POKE 752,1
110  OPEN #2,4,0,"K:"
120  FOR Z = 1 TO 10
130  POSITION 2,15
140  PRINT #6;"PRESS NUMBER KEY (RETURN TO STOP)";
150  GET #2,N:N = N - 48:IF N = 107 THEN 300
160  IF N<1 OR N>9 THEN 130
170  RESTORE 190
180  FOR X = 1 TO N:READ T:NEXT X:A(Z) = T:V = 10 - N
```
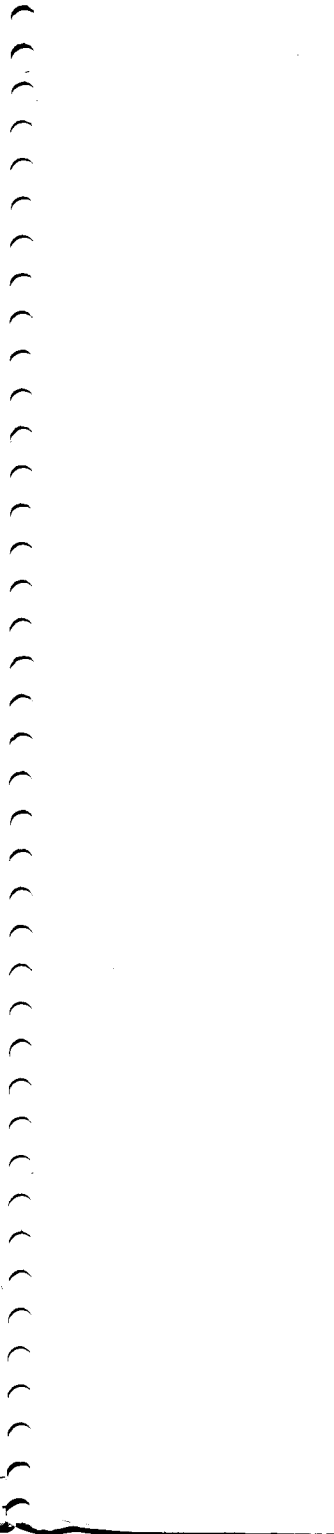
```
190   DATA 121,108,96,91,81,72,64,60,53
200   SOUND 0,T,10,10:GOSUB 400:SOUND 0,0,0,0
210   IF V/2=INT(V/2) THEN 260
220   POSITION Z*3,12:PRINT N
230   POSITION Z*3,V/2+4:PRINT ;CHR$(21)
240   POSITION Z*3,V/2+5:PRINT ;CHR$(149)
250   GOTO 280
260   POSITION Z*3,12:PRINT N
270   POSITION Z*3,V/2+5:PRINT #6;CHR$(160)
280   NEXT Z
300   FOR B=1 TO Z-1
310   SOUND 0,A(B),10,10:GOSUB 400:SOUND 0,0,0,0
320   NEXT B
330   POSITION 2,15
340   PRINT #6;"PRESS ANY KEY TO REPEAT THE MELODY"
350   GET #2,A:GOTO 300
400   FOR WAIT=1 TO 100:NEXT WAIT:RETURN
```

The·Code Breakers
an ATARI® adventure

Is there a private eye lurking inside you longing for the chance to unravel clues, chase hot leads, and decipher codes? If so, put on your trenchcoat and dark glasses because you're about to become involved in a most fascinating ATARI® caper.

It all begins when two clever kids—Nikki and Adam—accompany their father on a business trip. The kids think they'll be spending their time in museums or sightseeing. They couldn't be more wrong! This simple trip to Chicago quickly turns into a fast-paced adventure that leads to an unexpected, exciting conclusion.

You're part of the action as your ATARI becomes your partner to help break the codes and solve the case. You'll put the pieces together and use your computer to interpret the clues and discover their meaning, just as Nikki and Adam do. As you break each of the codes, you'll get closer to exposing the secrets and uncovering the mystery.

As part of the CREATIVE PASTIMES SERIES, THE CODE BREAKERS gives you a super getaway—without the cost of air fare!
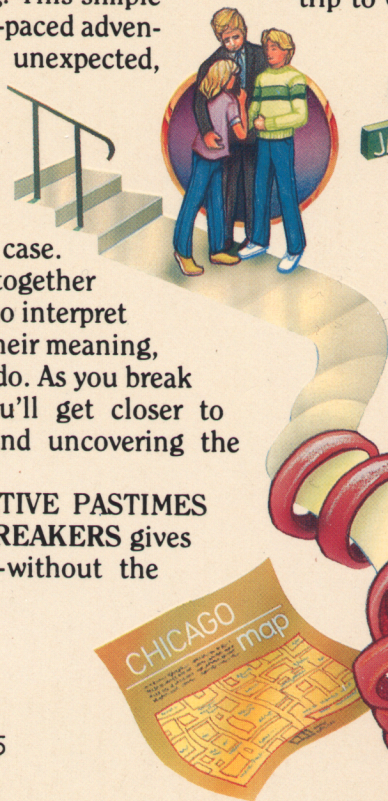
JACKSON st.

CHICAGO map

74-69-78 7

Illustration by Al Pagan