

Lesson 8: Teach Edison to count to 9

Have you ever looked at how old digital signs and clocks display numbers? The numbers are displayed using lines which make up a rectangle-shaped grid. Each number, from 0 up to 9, can be displayed by using some combination of the lines in that grid.

Digital display numbers don't have curves or diagonal lines. They only have straight lines and right angles. That makes them perfect patterns for Edison to drive!

Task 1: Teach Edison a number

Look at student sheets 5, 6, 7 and 8. Choose one of the activity sheets to use.

Write a program for Edison so that the robot can trace over the digital display number you chose. Start the robot off of the digital display number and drive so that the robot traces over every segment of the number.

1. Which digital display number did you use?

2. What does your program look like? Which blocks does it use, in which order? Write your program below. Be sure to include the input parameters you used.

3. Look at the distance input parameter in the blocks in your program. What do you notice about the inputs you used? How could this help you plan out a program for a different digital display number?

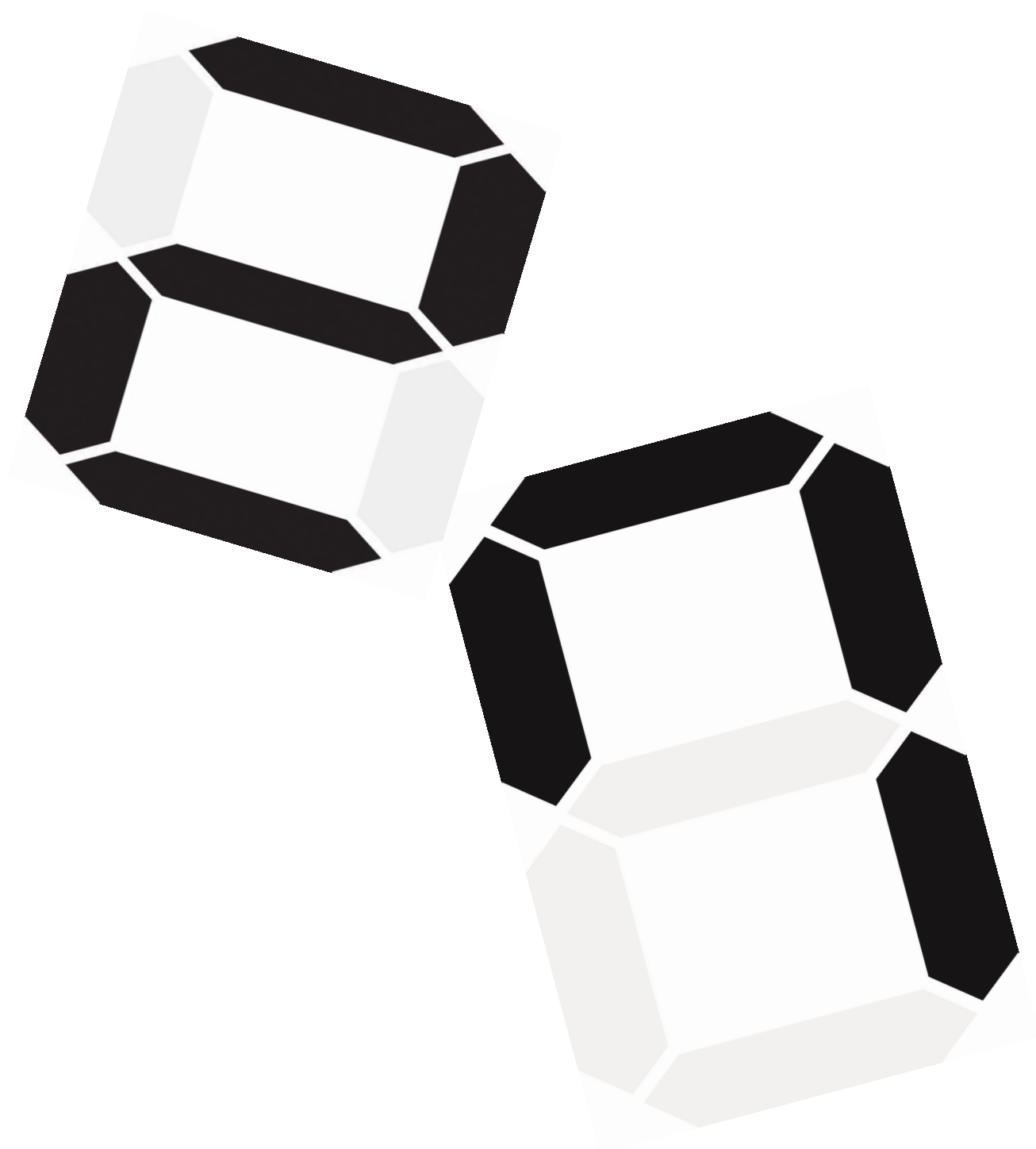
Task 2: Teach Edison a different number

Choose a different digital display number activity sheet. Use what you learned about the distance input parameter from your last number and write a program for Edison so that the robot can trace over your new digital display number.

4. Which digital display number did you use?

5. What does your program look like? Which blocks does it use, in which order? Write your program below. Be sure to include the input parameters you used.

6. Compare your two programs. Are there any patterns you notice that are similar in both? What are they?



BONUS Challenge: Teach Edison to count to 9 out loud

Can you get Edison to trace a digital display number by driving over it and count the same value 'out loud' in just one program?

What to do

Look at student sheets 5, 6, 7 and 8. Choose one of the activity sheets to use.

Write a program for Edison so that the robot traces over the digital display number you chose. You also need Edison to count 'out loud' somehow.

Your program needs to have Edison count the same amount as the digital display number it is driving. For example, if you choose the number 5, your program needs to have Edison give some sort of signal as it 'counts' to 5.

Think about the sequence of things you want Edison to do. Will the robot drive the whole path and then count? Count before driving? Drive a little, count to one, then drive a bit more before counting the next number?

How you do it is up to you!



Hint!

Which of Edison's outputs could you use to signal the robot is counting?

Mini challenge!

What about the rest of the numbers? Make your own digital display number with a different number than the activity sheets.



Don't forget

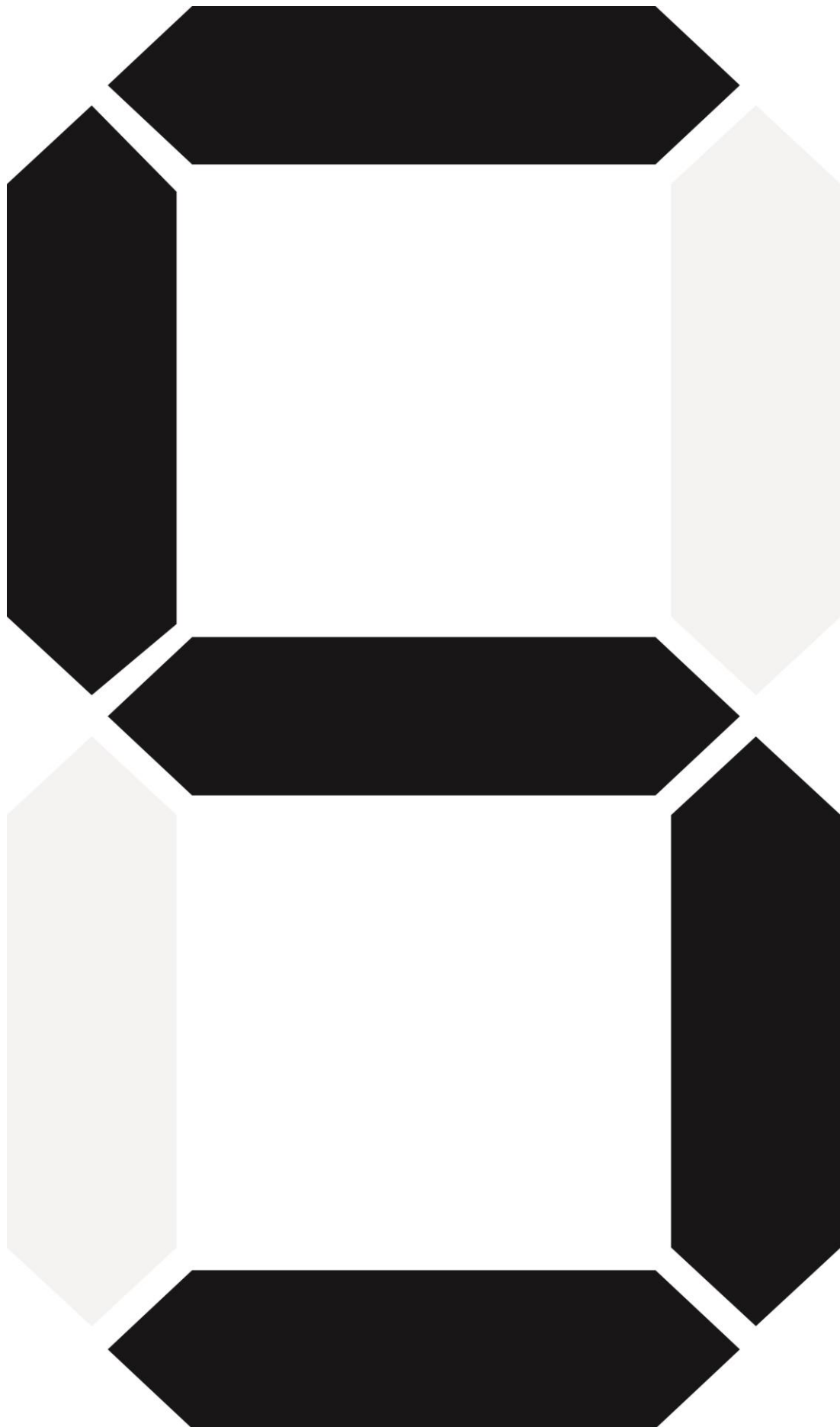
Digital display numbers don't have curves or diagonal lines. They only have straight lines and right angles. The numbers are displayed using segments which make up a rectangular grid. Each number, from 0 up to 9, can be displayed by using some combination of the lines in the grid.

Once you have made your digital number, test it out! Write a program for Edison to trace and 'count' your number.

Activity sheet Digital display 2



Activity sheet: Digital display 5



Activity sheet: Digital display 7

