

Computing

Lesson 5: Mixing it up!

Physical Computing

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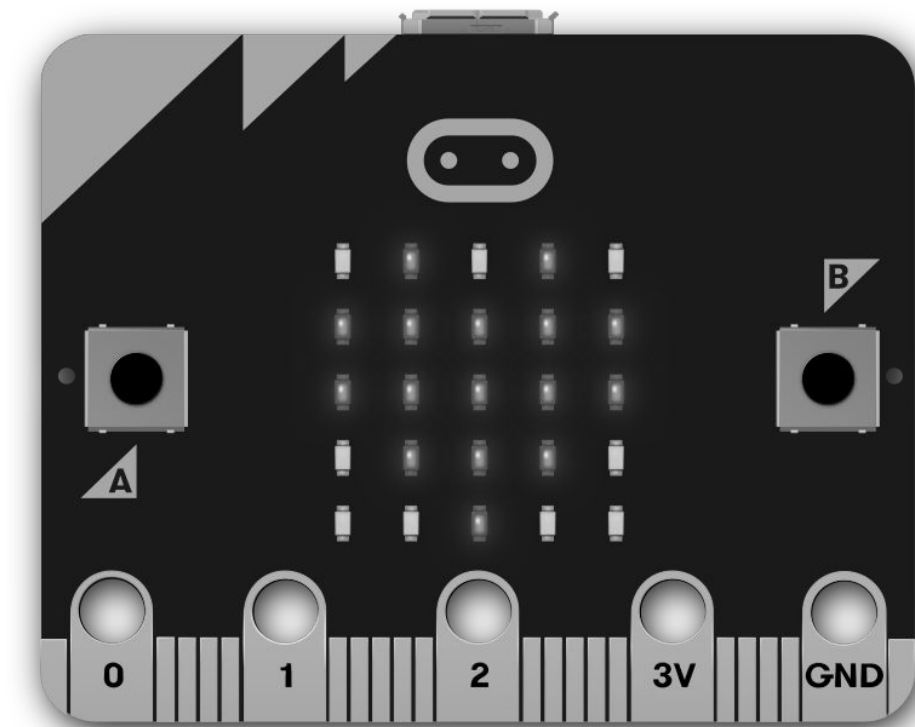
¹ Materials from the Teach Computing Curriculum created by the National Centre for Computing Education



Task 1 - Decompose the 'Guess the number' game

You will create a 'guess the number' game on the micro:bit. The user will think of a number up to 100 and the device will be doing the guessing.

- Using the downloadable resource break down the problem into subproblems that will needed to be solved in order to create the game.



Credit: micro:bit Foundation



Task 1 - Decompose the ‘Guess the number’ game

- What are the individual sub-problems that need solving in order to produce a working game?

Description of sub-problem

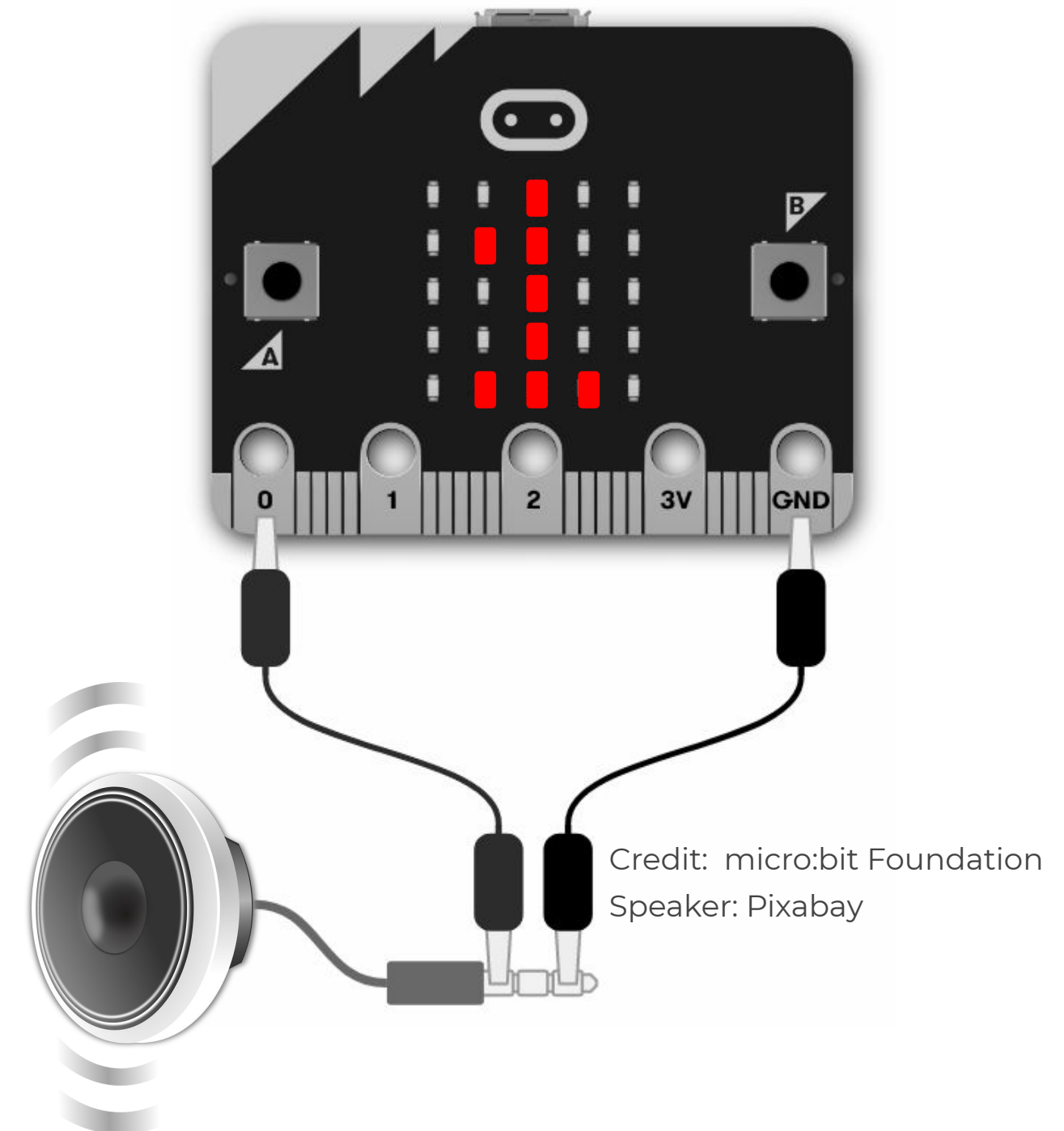


Task 2 - Coding the guess the number game

Your task now is to code your game using the skills learned throughout this unit.

If you need a reminder on how to solve some of the sub-problems, refer back to some of the previous lessons in this unit.

Tip: Code small sections at a time and test regularly.



Task 2 - Coding the guess the number game - tips

Starting the game: An arrow towards button A will blink on the display (output), to indicate that the button needs to be pressed in order for the game to start. The program will check if the button was pressed (input and processing).



Task 2 - Coding the guess the number game - tips

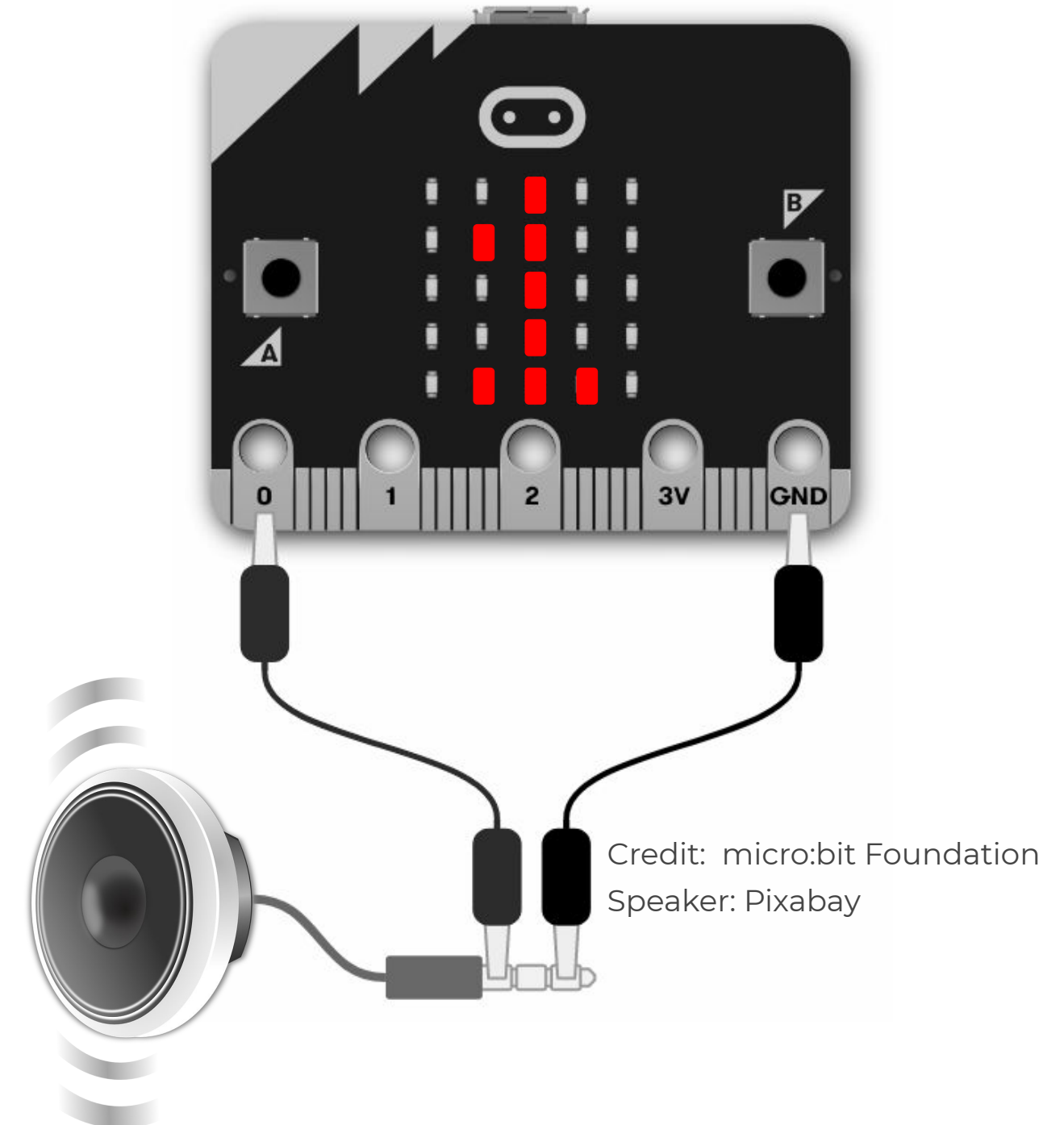
Playing the game: The program will keep track of two numbers, the lowest and highest possible values for the secret number it needs to guess. These start at 1 and 100. The program picks the middle of the range between these two numbers and displays it as a guess (output). It then waits for the user's reply, checking the buttons for specific input. The user can indicate that the secret number is lower by pressing button A, higher by pressing button B, or that the guess is correct by shaking. Having detected one of these inputs, the program will update the range accordingly. It will terminate the game if the number has been guessed (processing).

Outcome: The outcome of the game will be displayed (output) and sound played (optional).



Guess the number game - solution

Here is a [link](#) to a possible solution to the guess the number game.



**Click here to download
additional assets for
this lesson**

