Introduction

You are going to code your micro:bit to read the future! Simply ask the micro:bit a question, and press a button to find out the answer!

Resources

For this project, the MakeCode (PXT) microbit editor should be used.

Learning Objectives

- Selection if blocks;
- The random block.

Challenges

- "Multiple answers" - Consolidating use of if blocks, by adding 'No' and 'Ask again' answers.
- "Shake your micro:bit" - Shake the micro:bit instead of pressing a button.
Step 1: Scrolling text
Let's start by scrolling some text instructions on your micro:bit.

✅ Activity Checklist

☐ Go to rpf.io/microbit-new to start a new project in the MakeCode (PXT) editor. Call your new project 'Fortune Teller'. You can delete the `forever` block by dragging it over the palette, you don't need it for this project.

☐ Drag a `show string` block inside your `start` block.

☐ Test out your code. You can test it out in the emulator or on the micro:bit itself.

Step 2: Making a decision
Let's get your micro:bit to make a decision by randomly choosing a number (0 for 'No' and 1 for 'Yes').

✅ Activity Checklist

☐ Add a new `on button A pressed` event to your code.

☐ Let's create a new variable to store the answer. Click the 'Variables' and then click 'Make a variable'.
Name the new variable called \texttt{answer}.

**New variable name:**

![Image of variable named answer](image)

Drag a \texttt{set} block from Variables into your \texttt{on button A pressed} block and select the \texttt{answer} variable.

As you can see, the \texttt{to} in the block means that you can set the answer to display.

Click 'Math' and drag a \texttt{pick random} block after the \texttt{to}:

![Image of pick random block](image)
Tell the random block to choose a number between 0 and 1. Here’s how your code should look:

Next, you want to display the word No on the micro:bit only if the answer is 0.

To do this, drag an if block onto the bottom of your on button A pressed event:

Next drag an = block as the condition in the if:

Drag your answer variable onto the left side of the if block.

Any code inside the if block will only run if the answer is 0. As 0 is No, let’s add a show string block.
Can you add code so that 'Yes' is displayed on your micro:bit if the answer is 1?
You can even change the text shown to something more interesting than just 'Yes' and 'No'!
You can even make your micro:bit say something like 'Maybe' or 'Ask again' if the answer is 2. To get this working, you'll also need to change your code to choose a random number between 0 and 2!
Tip: You can right-click on an `if` block to duplicate the block and its contents.

Test your code.
- Sometimes the `answer` will be 0, and the micro:bit should say 'No'.
- Sometimes the `answer` will be 1, and nothing will happen!

**Challenge: Multiple answers**

Can you add code so that 'Yes' is displayed on your micro:bit if the answer is 1?
You can even change the text shown to something more interesting than just 'Yes' and 'No'!
You can even make your micro:bit say something like 'Maybe' or 'Ask again' if the answer is 2. To get this working, you'll also need to change your code to choose a random number between 0 and 2!
Tip: You can right-click on an `if` block to duplicate the block and its contents.

**Challenge: Shake your micro:bit**

Can you code your micro:bit to make a decision when it is shaken instead of when a button is pressed?