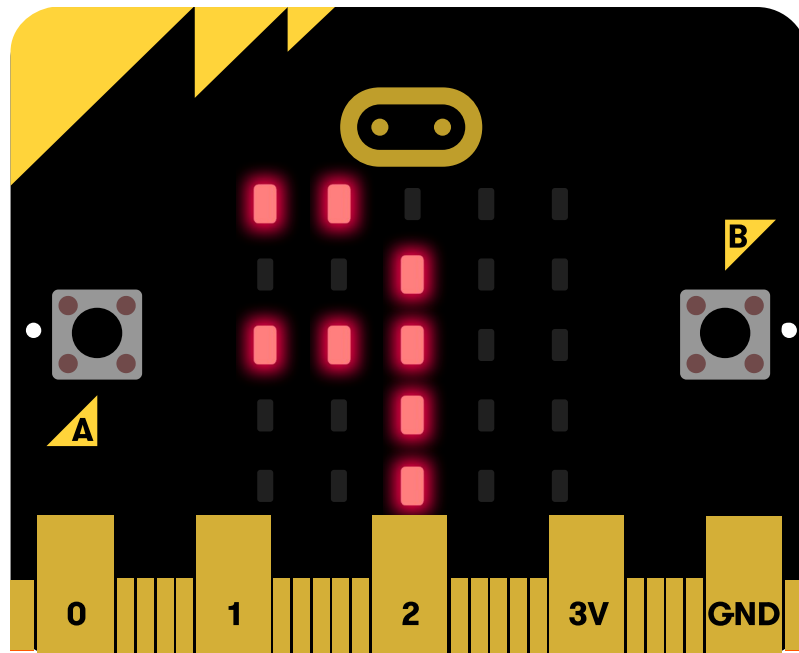


## Introduction

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.

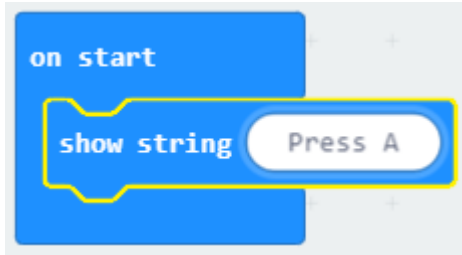
## Step 1: Scrolling text

Let's start by scrolling some text instructions on your micro:bit.

### ✔ Activity Checklist

- Go to [rpf.io/microbit-new](https://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

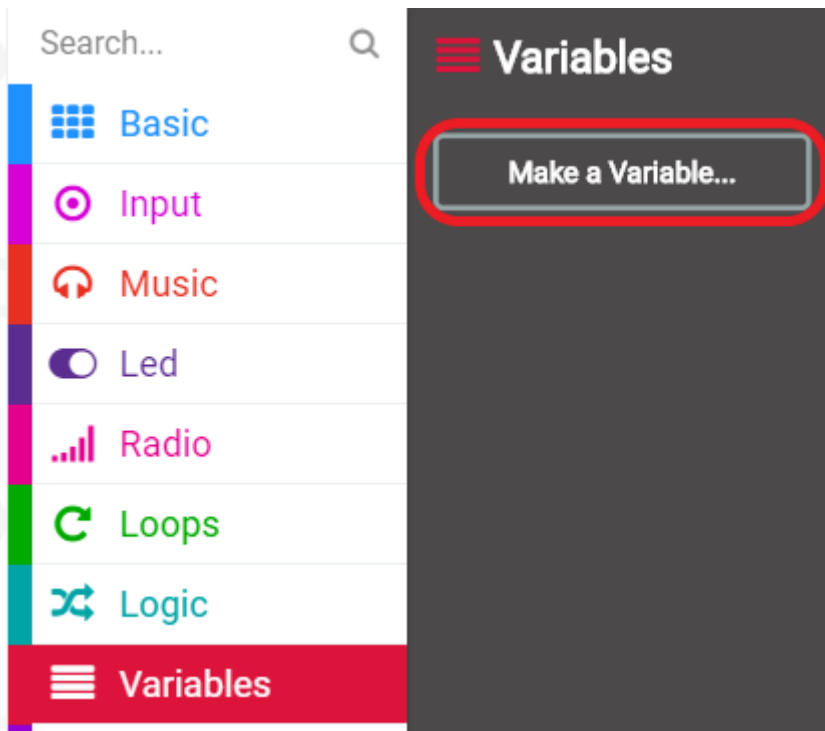
Let's get your micro:bit to make a decision by randomly choosing a number (`0` for 'No' and `1` for 'Yes').

### ✔ Activity Checklist

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



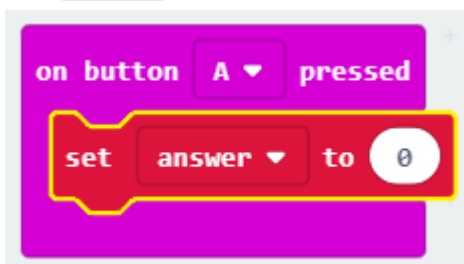
- Let's create a new variable to store the answer. Click the 'Variables' and then click 'Make a variable'.



- Name the new variable called `answer`.

**New variable name:**

- Drag a `set` block from Variables into your `on button A pressed` block and select the `answer` variable.



As you can see, the `to` in the block means that you can set the answer to display.

- Click 'Math' and drag a `pick random` block after the `to`:



- Tell the random block to choose a number between 0 and 1. Here's how your code should look:

```
on button A pressed
  set answer to pick random 0 to 1
```

- 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:

```
on button A pressed
  set answer to pick random 0 to 1
  if true then
    +
```

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

```
on button A pressed
  set answer to pick random 0 to 1
  if 0 = 0 then
    +
```

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

```
on button A pressed
  set answer to pick random 0 to 1
  if answer = 0 then
    +
```

- 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.

```
on button A pressed
  set answer to pick random 0 to 1
  if answer = 0 then
    show string "No"
```



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.

```
on button A pressed
  set answer to pick random 0 to 2
  if answer = 0 then
```

## 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?