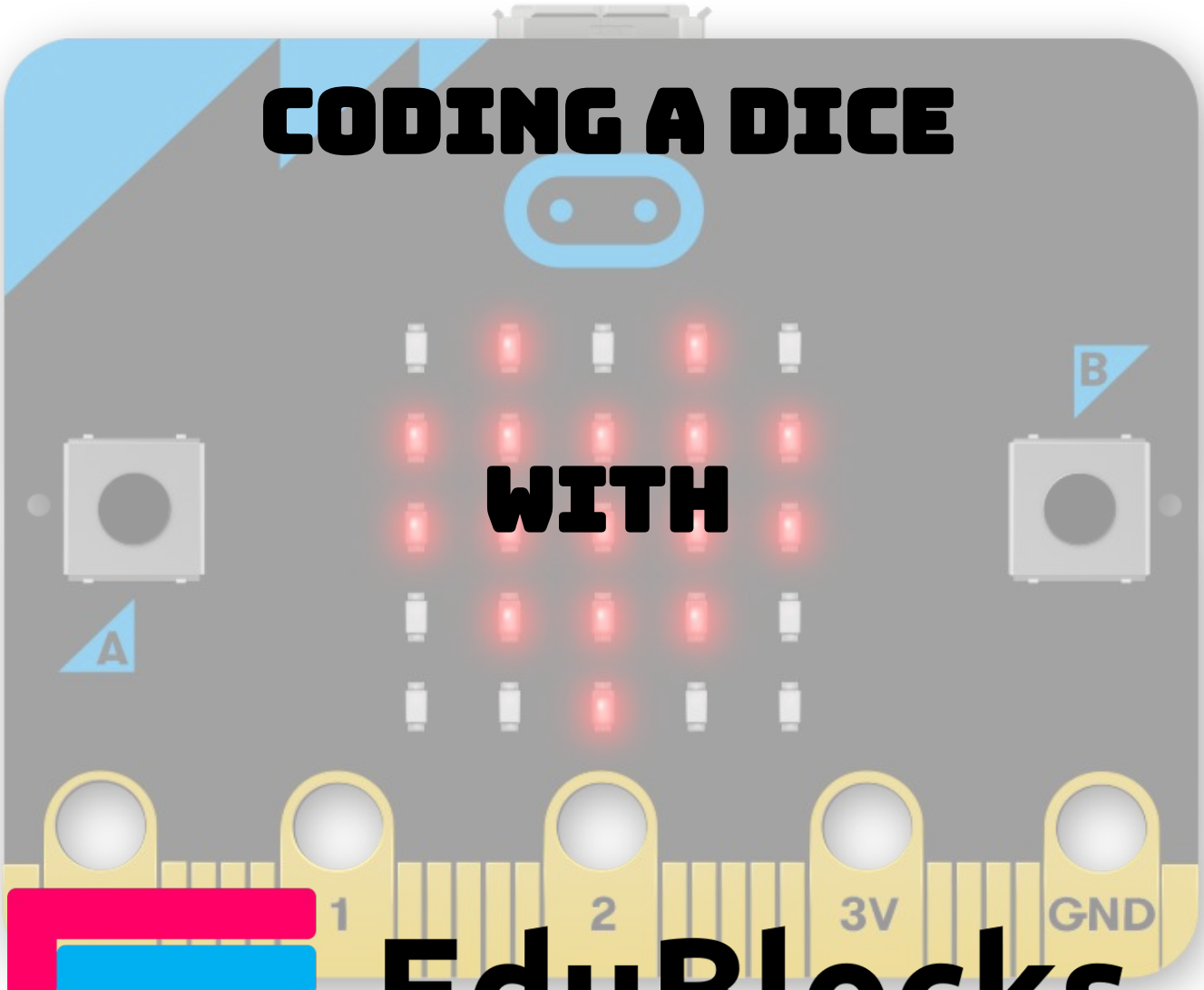
raspikidd

Internet Required



CODING A DICE

WITH

EduBlocks

Making the transition from Scratch to Python easier

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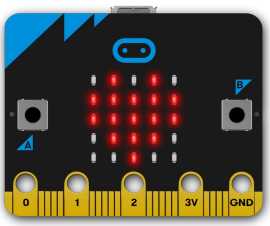
Raspikidd.com

CODING A DICE



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OBJECTIVE

We are going to create a dice, so when you shake the micro:bit it will generate a random number between one and 6 and then display the number on the LED matrix as you would see it on a dice.

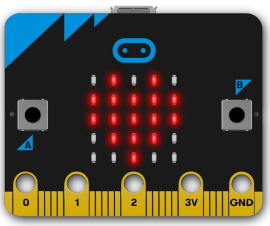
GETTING STARTED

1. Go to a web browser on your chosen computer whether that be a PC, Mac or Raspberry Pi.

2. Type the following address in the search bar or click on the link below:

https://microbit.edublocks.org/

CODING A DICE



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CODING

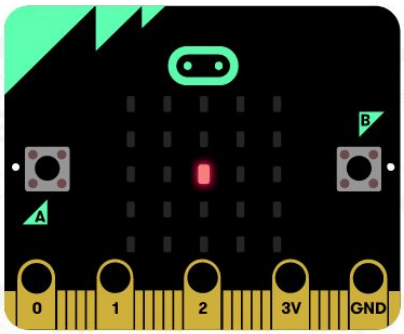
Now it’s time to build some code! We can drag code blocks from the EduBlocks toolbar on the left-hand side of the screen. The pink blocks can be found in the basics menu. This will be the beginning of our code.

```
from microbit import *
import random
```

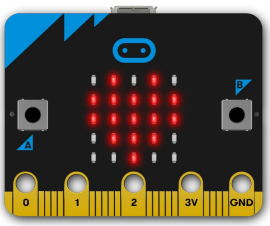
This section of code is importing the micro:bit library and the random library. Both have features to communicate with the micro:bit

The next 6 code blocks can be found in the display menu at the left. They are representing how each number will show on the display. The 0’s are representing LEDs that will be off, and the 9’s are representing the LEDs that will be on.

```
one = Image("0 0 0 0 0 :"
            "0 0 0 0 0 :"
            "0 0 9 0 0 :"
            "0 0 0 0 0 :"
            "0 0 0 0 0 ")
```



CODING A DICE



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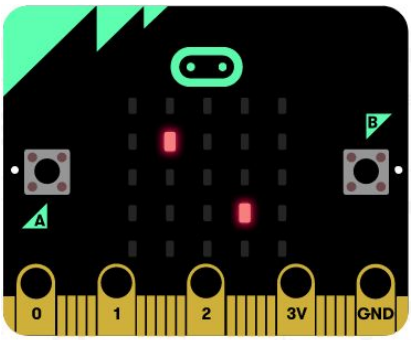
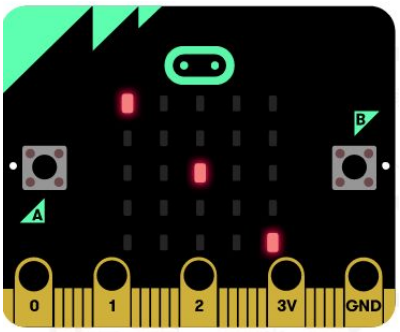
CODING

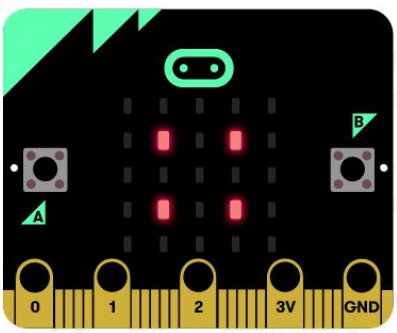
```
two = Image("0 0 0 0 0 :"
            "0 9 0 0 0 :"
            "0 0 0 0 0 :"
            "0 0 0 9 0 :"
            "0 0 0 0 0 ")
```



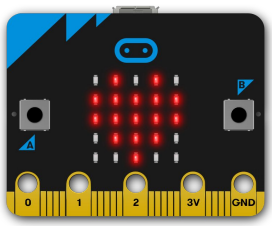

```
three = Image("9 0 0 0 0 :"
              "0 0 0 0 0 :"
              "0 0 9 0 0 :"
              "0 0 0 0 0 :"
              "0 0 0 0 9 ")
```




```
four = Image("0 0 0 0 0 :"
             "0 9 0 9 0 :"
             "0 0 0 0 0 :"
             "0 9 0 9 0 :"
             "0 0 0 0 0 ")
```



CODING A DICE



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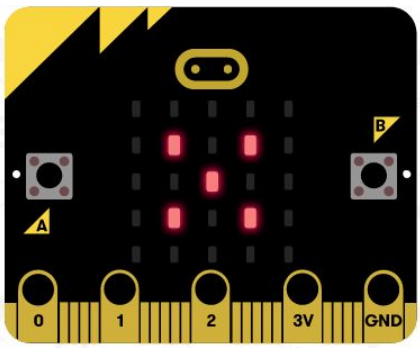
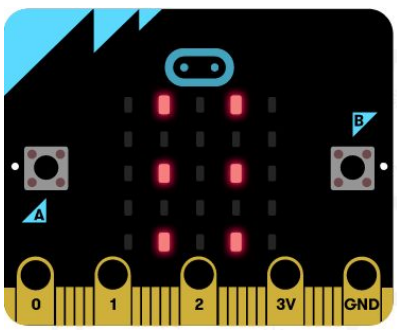
CODING

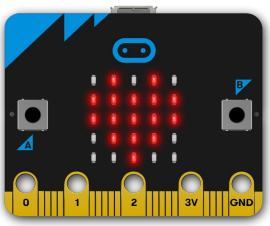
```
five = Image("0 0 0 0 0 :"
             "0 9 0 9 0 :"
             "0 0 9 0 0 :"
             "0 9 0 9 0 :"
             "0 0 0 0 0 ")
```




```
six = Image("0 9 0 9 0 :"
            "0 0 0 0 0 :"
            "0 9 0 9 0 :"
            "0 0 0 0 0 :"
            "0 9 0 9 0 ")
```

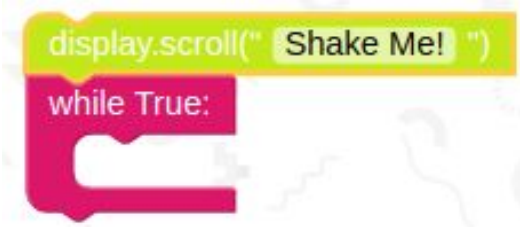


CODING A DICE



CODING

The next 2 code blocks can be found in 2 different menus, the yellow block is found in display and the pink one in basic. The code we create from now on will go in the while True block to create a loop. This will make sure that the micro:bit is always checking to see if it has been shaken.

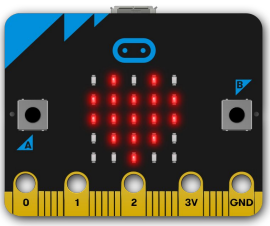


The first block displays “shake me!” scrolling along the display.

The next three code blocks are from 2 different menus, as you probably figured out the pink ones are from the basic menu and the orange block is from the accelerometer menu.

The first 2 blocks are checking to see if the micro:bit has been shaken. If the micro:bit has been shaken the second block is executed which generates a random number between 1 and 6.

CODING A DICE



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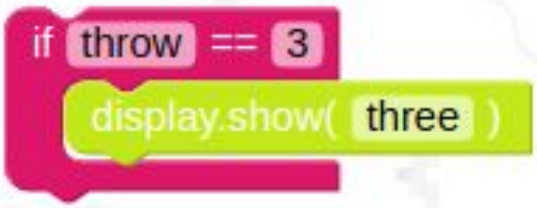
CODING

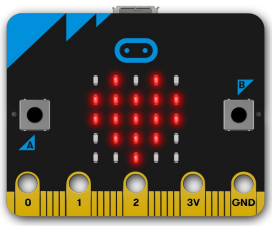
The first block again is pink so it is from the basics menu and the second block is yellow which is from the display menu. All of the code from now on goes inside the if block from the previous page. This block of code will be repeated 6 times one block per number on dice.

The first block is checking to see if the random is one if it is it displays 1 on the display.

Go ahead and create the blocks of code for numbers 2 - 6.



CODING A DICE



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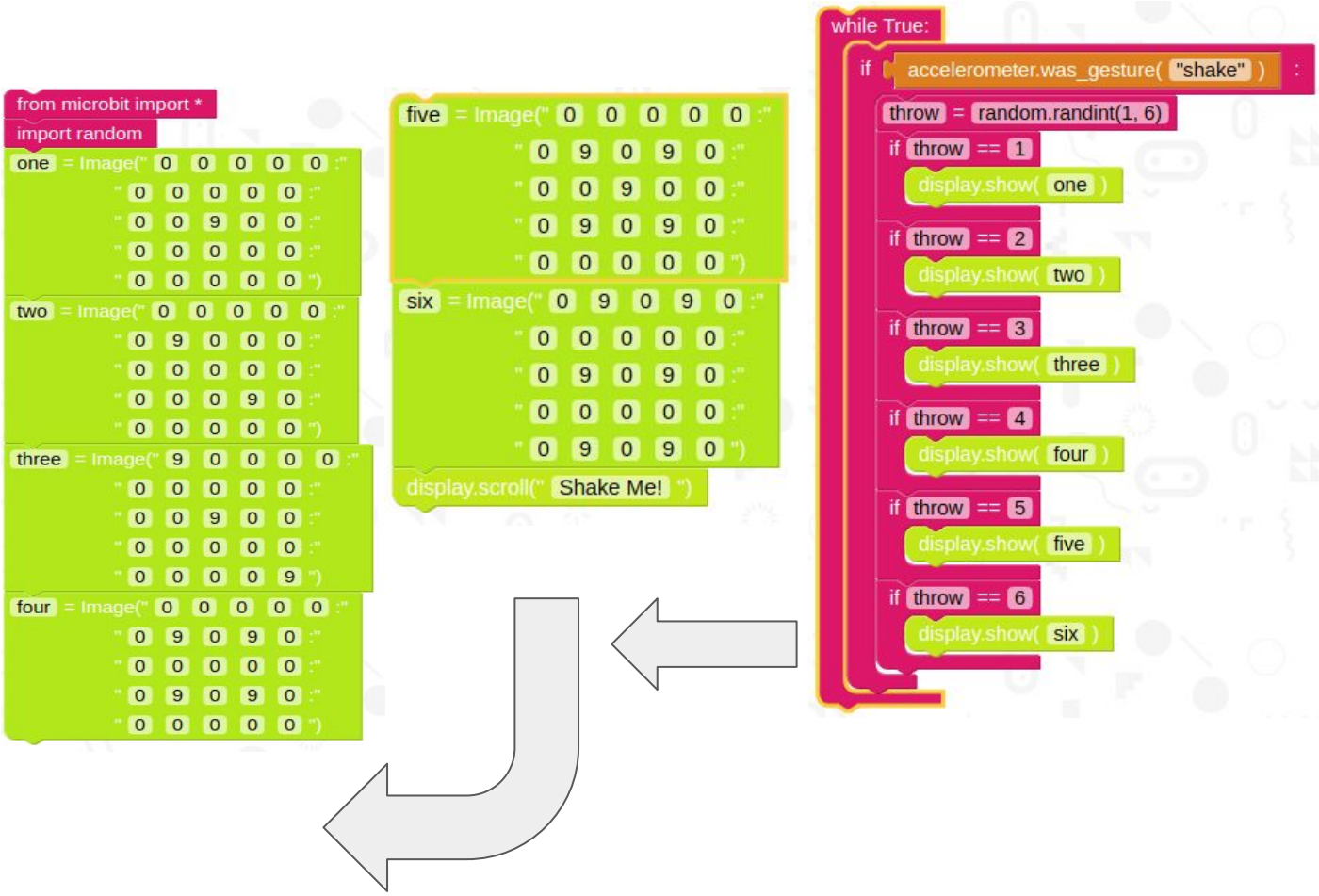
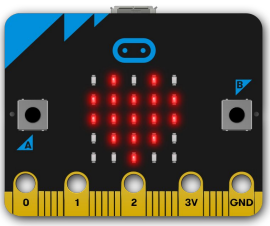
COMPLETED CODE

Your code should look like this: each block is connected to each other.



CODING A DICE



DOWNLOAD THE CODE

1. Plug your micro:bit into a USB port on your computer.
2. Click on the Download Hex button to download the program to your computer. This will generally download the file to the downloads folder on your computer.
3. Open the downloads folder and locate your .hex file.
4. Drag the .hex file to your micro:bit. You should now see the orange light on the back blinking.

RUNNING THE CODE

Once the orange light has stopped blinking. You should see shake me scroll across the display. Shake your micro:bit and see a number as it would appear on a dice.

Next time you can’t find a dice you can code one!