



Rock, Paper, Scissors Game

We're going to program your microbit to play a game of Rock, Paper, Scissors.

The first thing to decide is when to start the game. When I play, I raise my fist 3 times and then reveal my weapon. So why not do it on a shake?

Next the microbit has to choose Rock, Paper or Scissors. So we want it to choose 1 of 3 options. We don't want it to be something we can guess, so it has to be random. How can we do that? We'll need to store that value.

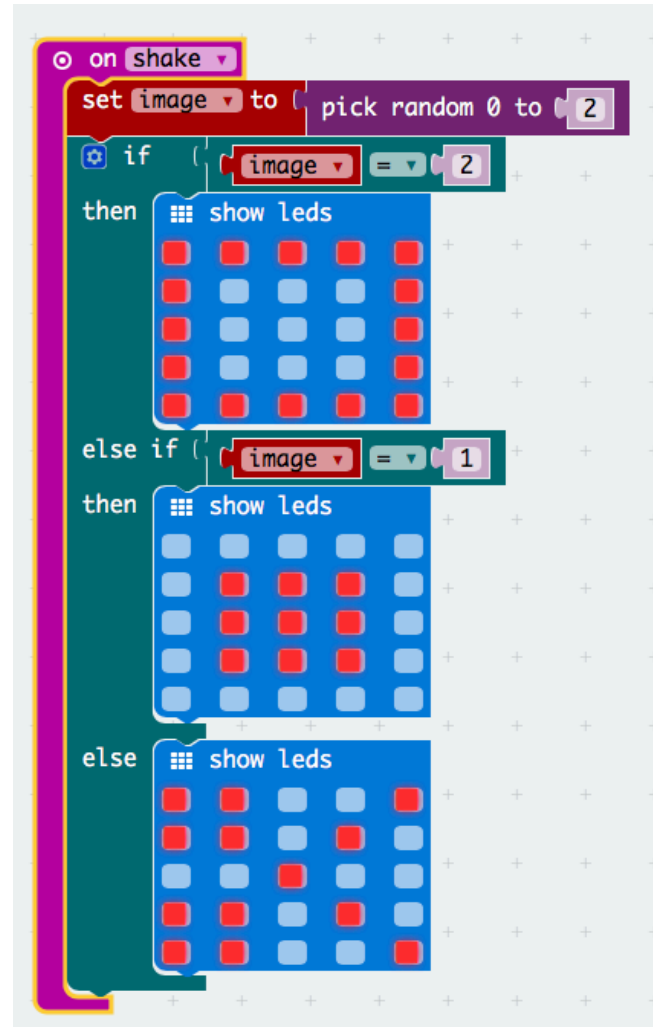
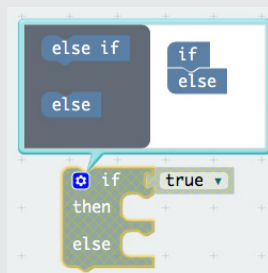
Did you know?

Computers count from 0. So a list of 3 items is actually, [0, 1, 2]. So that's why we put the maximum number in the random method as 2.

Once we have that value we need to tell the microbit to display the correct weapon, so we'll have to code some kind of logic in order to show different shapes, for different values, on the display.

Did you know?

Select the cog icon to make neater 'if else' blocks. Drag the blocks in the popup into the order you want. Click the cog when you're done.



Extra challenges:

Keep track of how many games you win, and how many the microbit wins.

- You'll need to store 2 values.
- You'll have to tell the microbit if you or it won.
- Each time you do that you'll have to set the score to itself plus 1.
- You'll need to have some way to ask the microbit to show the score.

Why don't you try?

You'll see doing the extra challenges means a lot of blocks. Why don't you try changing to the Javascript view and seeing if it would be easier to do in code?



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Extra challenges – one solution!

```
on button A pressed
  set humanScore to humanScore + 1

on button B pressed
  set micobitScore to micobitScore + 1

on button A+B pressed
  show string "Human: "
  show number humanScore
  show string "-"
  show string "Microbit:"
  show number micobitScore

on pin P0 pressed
  set humanScore to 0
  set micobitScore to 0
```

The image shows a Scratch script with four event-driven blocks. The first block is for button A, which increments the humanScore variable by 1. The second block is for button B, which increments the micobitScore variable by 1. The third block is for button A+B, which displays the current scores for both players: "Human:" followed by humanScore, a hyphen "-", and "Microbit:" followed by micobitScore. The fourth block is for pin P0, which resets both humanScore and micobitScore to 0.