Rate Your Mates

Introduction

You are going to code your micro:bit to tell you how compatible you are with your friends.

Resources

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

Learning Objectives

- > and < relational operators;
- Repetition (for loop).

Challenges

- "Low rating" - Use of if statement and < relational operator to show a cross or a sad face if the rating is under 25.
- "More animations" - Use of a for loop to create more animations.
Step 1: Pressing buttons together

Let's start your program when the A and B buttons are pressed together.

☑️ Activity Checklist

☐ Go to rpf.io/microbit-new to start a new project in the MakeCode (PXT) editor. Call your new project 'Rate Your Mates'.

☐ When the micro:bit starts, display an image showing that both buttons should be pressed.

You can use scrolling text instead of an image if you prefer.

☐ A rating shouldn't be shown until both buttons are pressed. Add a new on button A+B pressed event to your project.

☐ Add code to show a question mark for 1 second, to build the suspense before giving the friends their rating.
Test our your code. When you press buttons **A and B together**, a question mark should flash onto the screen.
Step 2: Displaying a rating

Show a friendship rating on the screen.

**✓ Activity Checklist**

- Click 'Variables' and make a new variable called `rating`.

- Drag a `set` block to the end of your `on button A+B pressed` code and select the `rating` variable.

- Click 'Math', and use the `pick random` block to set the rating to a random number between 0 and 100.
Add code to show the rating on the screen.

Finally, after a delay, display the instructions again. Remember that you can use right-click then 'Duplicate' to copy a block.
Test your code. Now, if you press buttons A and B together, a random rating should be displayed.

**Step 3: Best mates**

Let's display a heart when two friends have a high rating.

**Activity Checklist**

- Add an `if` block to your code, just before the instructions are shown.
You want to display a heart if the rating is high (say over 75). To do this, drag a comparison block from 'Logic' to your 'if' and select '>':

Drag your `rating` variable into the left side of your `if` block, and add the number 75 to the right side.

Any code inside this `if` block will run if the rating is over 75.
Show a heart image on the screen for 1 second if the rating is over 75.

Test your code. Does an image of a heart show if the rating is over 75? You might have to try a few times to test it!

**Step 4: Adding an animation**

Let's display short animations in your program.

**Activity Checklist**

Here's the code for displaying a question mark for 1 second before clearing the screen:
To make this question mark flash 5 times, you'll need to put this code inside a `repeat` loop and set the number of repeats to '5':

```blocks
repeat 5 times
    show leds
    pause (ms) 1000
end
```

**Challenge: More animations**

Can you make your other images flash on the screen?

**Challenge: Low rating**

Can you display a cross or a sad face for a rating under 25?