

### **Challenge 1: LED Heart with Button Input**

**Objective:** Display a heart when button A is pressed and a smiley face when button B is pressed.

**Skills:**

- Handling button inputs
  - Displaying images on the LED grid
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### **Challenge 2: Count and Display Button Presses**

**Objective:** Count how many times button A is pressed and display the count on the screen.

**Skills:**

- Using variables
  - Handling button inputs
  - Displaying numbers on the LED grid
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### **Challenge 3: Show Even or Odd**

**Objective:** Display whether the current button press count is even or odd.

**Skills:**

- Using variables
  - Conditional statements (if-else)
  - Modulus operator (%) to check even or odd numbers
  - Displaying text messages
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### **Challenge 4: Reaction Timer Game**

**Objective:** Create a reaction timer that waits for a random time before prompting the user to press a button as quickly as possible.

**Skills:**

- Using random values
- Pausing execution for a random delay

## AIT – Year 5 Selection in physical computing

- Measuring reaction time
  - Conditional statements to check response speed
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### **Challenge 5: Rock, Paper, Scissors Game**

**Objective:** Create a game where the user chooses Rock, Paper, or Scissors, and the micro:bit randomly picks an option to determine the winner.

**Skills:**

- Handling multiple inputs (buttons and shake gestures)
- Generating random choices
- Using arrays to store choices
- Conditional statements to determine the winner