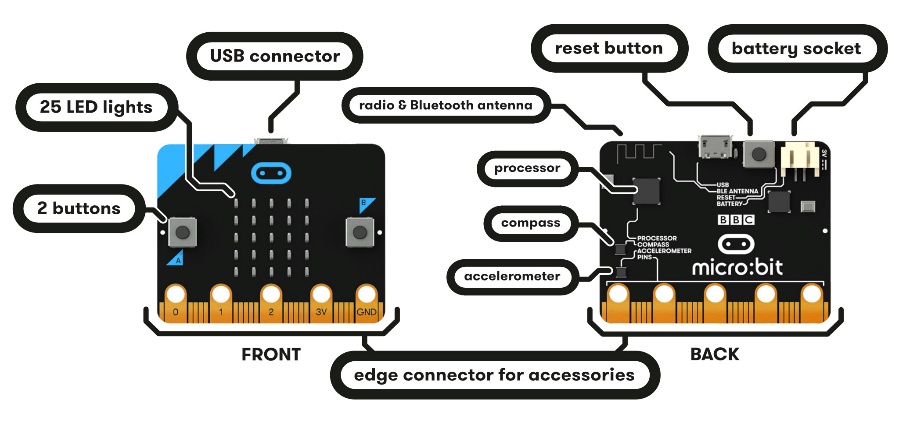
**(rock, paper, scissors) Game Using Micro:bit**

**1 - What is micro:bit ? :**is a small, programmable computer designed to help students learn about technology, coding, and electronics.

**2 - Micro: Bit Components:**

**Front Side:**

* LED Display (5x5 Grid):

A grid of 25 small LED lights that can show numbers, letters, shapes, and even simple animations. You can program it to display images, text as shown below:

A blue and white grid

Description automatically generatedA blue square with white squares

Description automatically generatedA blue square with white squares

Description automatically generatedA blue square with white squares

Description automatically generated**A blue and white square with white squares

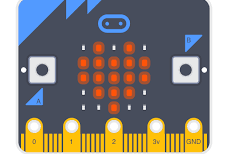
Description automatically generated**A blue and white grid

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* Buttons (A and B):

Two programmable buttons (A and B) that can be used for interacting with the micro:bit, such as controlling games or triggering actions in your program.



* USB Connector:

A micro-USB port that is used to power the micro:bit and to transfer programs (code) from your computer to the micro:bit.

* Edge Connector for Accessories:

The golden strip at the bottom has 25 pins. These can be connected to external components like sensors, motors, or LEDs, making the micro:bit highly customizable for projects.

**Back Side:**

* Radio & Bluetooth Antenna:

Allows the micro:bit to wirelessly communicate with other devices, including other micro:bits or smartphones, using radio signals or Bluetooth.

* Reset Button:

A small button to restart the micro:bit. This is useful if you want to run your program from the beginning or troubleshoot.

* Battery Socket:

A slot for attaching an external battery pack to power the micro:bit when not connected to a computer.

* Processor:

The (brain) of the micro:bit that runs the code you upload. It processes all inputs and controls the outputs.

* Compass:

A sensor that detects the Earth's magnetic field, allowing the micro:bit to function as a digital compass or detect nearby magnets.

* Accelerometer:

A sensor that detects motion and orientation. It can tell if the micro:bit is being shaken, tilted, or moved, which is great for motion-sensitive projects.

**3- Components Quiz:**

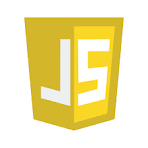
**Kahoot Quiz**

**4 – How Can We Program The Micro:Bit?**

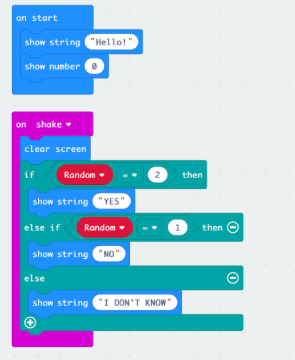
There are two ways to program the Micro:Bit:

* + By programing Languages:

Python or JavaScript



* + Programing Blocks (Drag and Drop Commands):



**5 – Programing Blocks (Drag and Drop Commands):**

Now let we go through how to make (Rock Paper Scissors) Game as your first project by using Programing Blocks

* **Step 1 :**

**Search for MakerCode Editor in google :**[**https://makecode.microbit.org/#editor**](https://makecode.microbit.org/#editor)

* **Step 2 :**

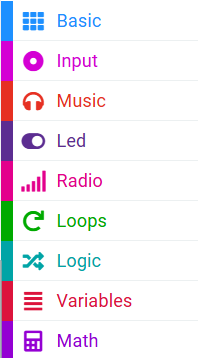
**Click on new project and name it : Rock – Paper – Scissors**

**Then this screen will appear**

**A screenshot of a computer

Description automatically generated**

* **Step 3 :**

We just will use this command Groups:  
   
From :

We need 3 of

****

****

From :

We need 3 of   
A purple and grey rectangular object with white text

Description automatically generated

  
From :

We need :

A screenshot of a computer

Description automatically generated

****

**AND**

A grey rectangular sign with white text

Description automatically generatedFrom :

Go to click on button and name a variable “Random\_Number“ or “RandNum” For Short then click **OK**

These Blocks will appear:  
A screenshot of a computer program

Description automatically generated

**Blocks that we need**



From :

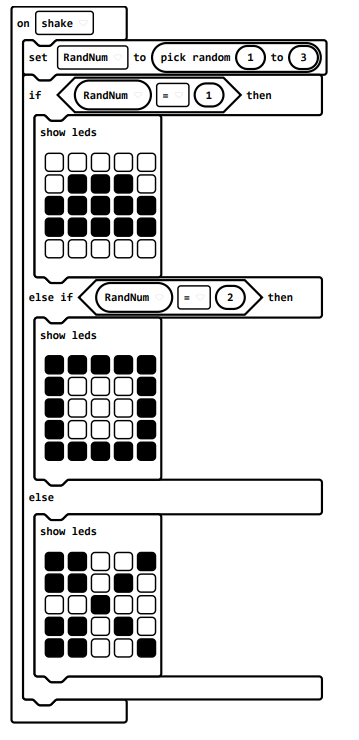
Scroll down until you find **(Pick Random)** Block



Set the range of numbers From 1 to 3

**This should be looks like when we finished :**

A screenshot of a computer game

Description automatically generated

**6 -** **Programing Blocks (Drag and Drop Commands) Quiz:**

**Kahoot Quiz**

**7 – Your turn to make (Rock – Paper - Scissors) Game:**

Now students should make the project in 20 minutes as a competition