INTERNSHIP REPORT

In the partial fulfillment of

Bachelor of Technology

Computer Science And Engineering

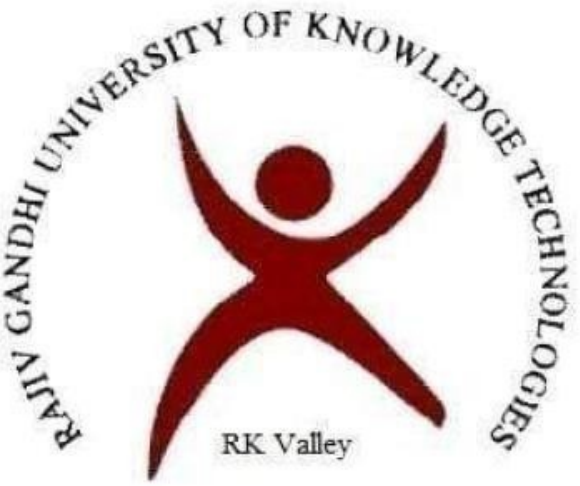
Submitted by

R170738 B.PADMAVATHI

Under the Supervision of

Mrs. SUSMITHA E

ASSISTANT PROFESSOR, CSE DEPARTMENT



RAJIV GANDHI UNIVERSITY OF KNOWLEDGE AND TECHNOLOGIES

RAJIV KNOWLEDGE VALLEY,
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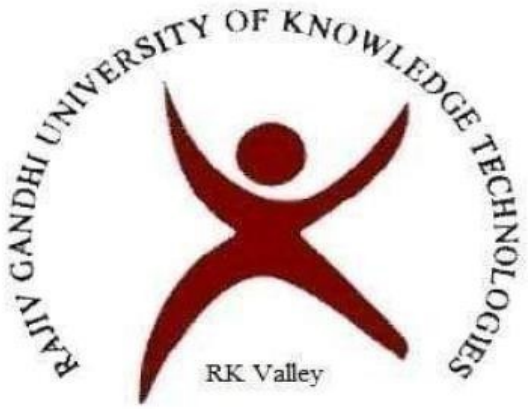
2022-2023.

Dept.Of CSE

CERTIFICATE OF COMPLETION



This is to certify that the work entitled **"ROBOTICS"i**s the Bounafade Work of **B.Padmavathi(R170738)** carried out under my guidance and Supervisor for 4th year project of Bachelor of Technology in the department **Computer Science And Engineering**.

Results embodied in this thesis have not been submitted to any other university/Institution for award of degree.

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DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

RAJIV GANDHI UNIVERSITY OF KNOWLEDGE

TECHNOLOGIES

DECLARATION BY STUDENT

The work made in this report has been done by me under the guidance of the our supervisor.

We have confirmed to the norms and guidelines given in the ethical code of conduct of the institute. Whenver I have used materials (data,theoretical analysis, figures and text) from, other sources, We have given due credit to them by siting them in the text of report and Giving their details in the references.

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Project Submitted by,

B.PADMAVATHI(R170738)

DATE:02/05/2023

PLACE:RK VALLEY

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

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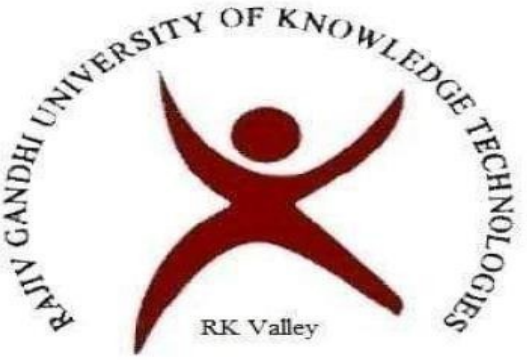
TECHNOLOGIES



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their timely suggestions and encouragements.

Finally, We express our thanks to our parents and friends for

ABSTRACT

It is an online Teaching platform for kids .Here so many students are Attend the classes in zoom meeting.Roboticschools is fast growing the Education company provinding experiential teacher led through online Technology educationto young kids ages 5-18 across students are there. Our interactive story-based learning allows kids to learn the basics with Easy block-based coding challenges before seamlessly transitioning to Real-world text-based languages like JavaScript and Python. Here the Technologies are used to the scartch,microbit,ardiuno,python,javascript Java and mit app inventor.We have over 100+ learning modules and the Hands-on projects are there.Each and every line we need explain to the Story based is there.

Information about the Company

Roboticschools is a fast growing edtech company providing experiential teacher led online technology education to young kids ages 5-18 across the globe.

It offers innovative courses employ principles of STEM (Science ,Technology ,Engineering,Mathematics). Kids while learning They will design and assemble robotic machines based on our specially designed Roboticskit.Students write computer code on our software and hardware coding platform .

Our interactive story-based learning allows kids to learn the basics with easy block-based coding challenges before seamlessly transitioning to real-world text-based languages like JavaScript and Python.

With Personalized curriculum courses, there’s a learning path for every kid, no matter their age or level. We have over 100+ learning modules and hands-on projects.

Locations

Primary

921,1Fl Laxmi Tower

5th Main Rd, Sector 7, HSR Layout,
Bengaluru, Karnataka 560102

Bengaluru, karnataka 560102, IN

Internship Details

As an intern with Roboticschools, I worked in a Intern Trainee position and was responsible for Building Robotics andTeaching Robotics to kids .I was part of the project development and core team. Together we worked on Arduino , Raspberry Pi and Python projects to accomplish our Goals. During my internship with the company, I learned Communication as well as technical skills .I was able to put these skills in practice While doing this internship.. The work was challenging, and gained more confidence in myself. It was a valuable experience.

Technologies :

1.Scratch

2.MIT App Inventer

3.Python

4.Arduino

5.Robotics

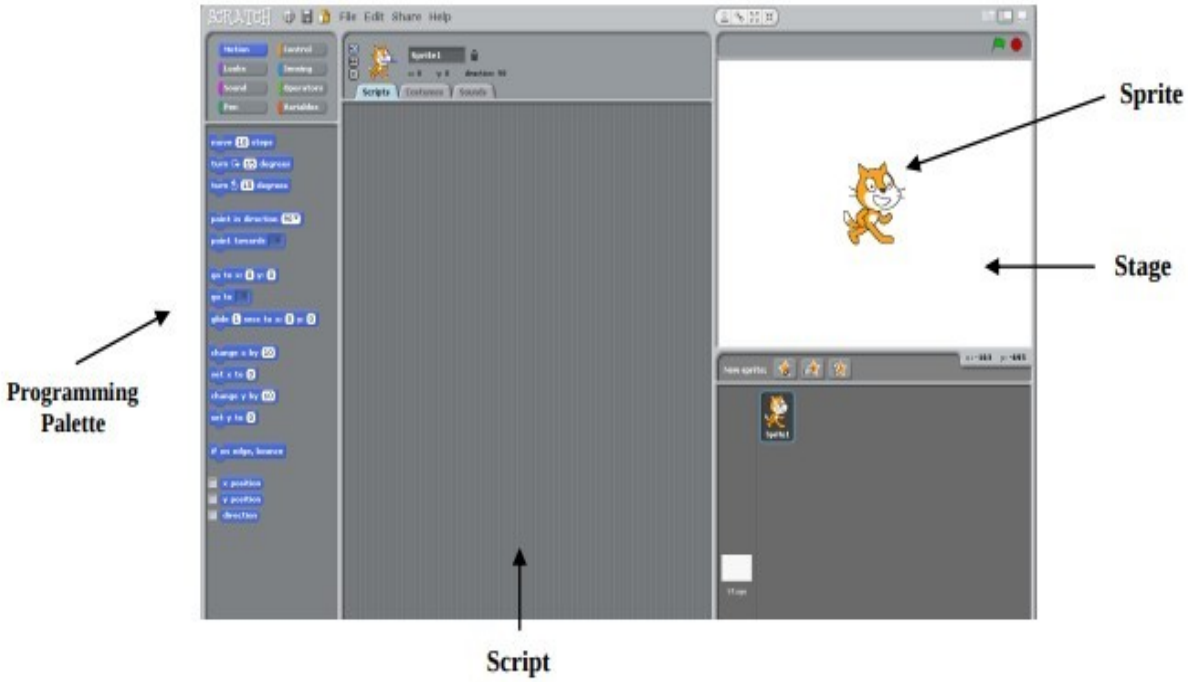
6.MicroBit

SCRATCH

Scratch is a high-level block-based visual programming language And website aimed primarily at children as an educational tool, with A target audience of ages 8 to 16.Users on the site, called Scratchers, can create projects on the website using a block-like interface.

Projects can be exported to standalone HTML5, Android apps, Bundle (macOS) and EXE files using external tools. The service is developed by the MIT Media Lab, has been translated into 70+ languages, and is used in most parts of the world.

Scratch is taught and used in after-school centers, schools, and colleges, as well as other public knowledge institutions. As of 15 February, 2023, community statistics on the language's official webs website show more than 123 million projects shared by over 103 or million users, over 804 million total projects ever created (including unshared projects), and more than 95 million monthly website visits



Interface of the Scratch lab

1) Stage – similar to the stage in a play. This is where everything will take place. The stage can be different backgrounds (see page 7), just like in a play.

2) Sprites – are the actors or main characters of the project. Sprites are programmed to do something in Scratch.

3) Script – tells the actors what to say or do. Each sprite is programmed with a script.

4) Programming palette – elements used to program the sprite to do or say something. Sprites
must be programmed to carry out every function you want them to perform.

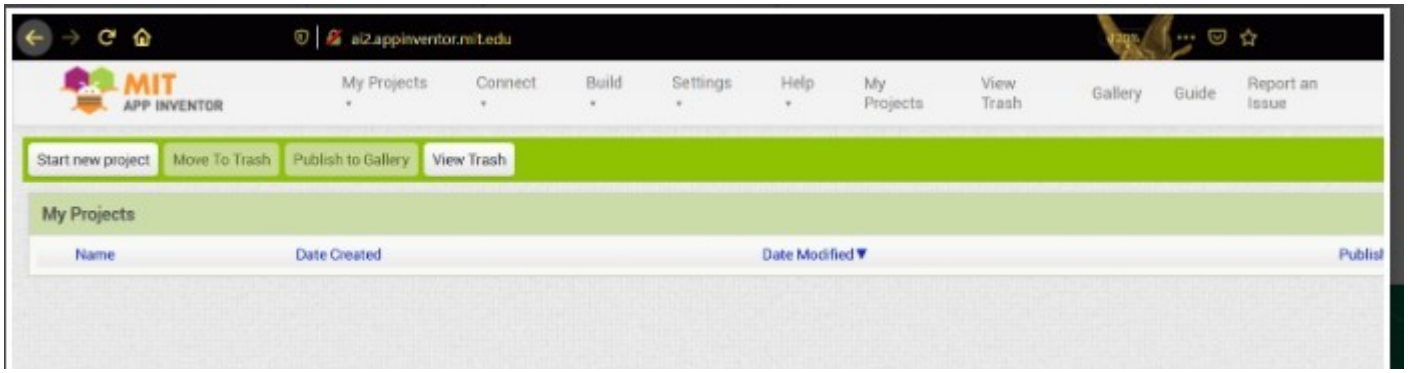
MIT App Inventer

What is MIT App Inventor?

In recent years the internet has reached a large number of people across the world. And this has motivated all the people who own some businesses or people who want to connect to a large number of people to use and make mobile /laptop applications.

These applications provide the customer with a way of easily exploring the content of the provider and it helps the provider with an ample opportunity to present their content more efficiently then they could when they were using websites.

But not all people can make the applications. They require some for medium to get their business on an application or an app. One way is to hire app developers. It can prove to be costly for some new for the business setters or the businessmen can be living in some remote part of the country where app developers are not present. Hence, to make app development easier MIT provides us with the MIT app inventor. This is a platform that makes app development easy for anyone who knows to code or not.



Interface of MIT App Inventer

Steps to use MIT app inventor:

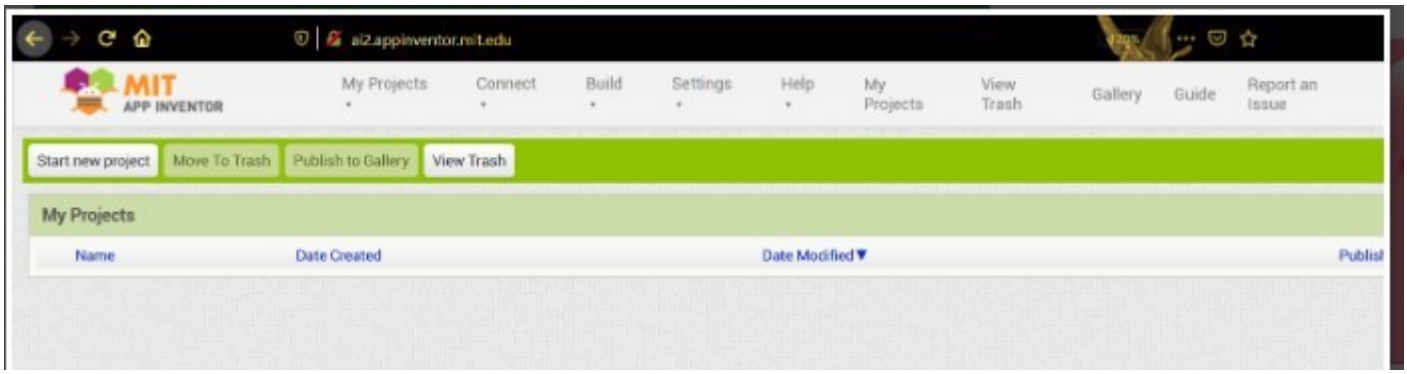
Step 1: Open a Gmail account in case you don’t have one.

Step 2: Open the link https://appinventor.mit.edu/ and log in to your Gmail account.

Step 3: You need to install the App Inventor Companion App (MIT AI2 Companion) on our mobile device that helps in live testing of our application.

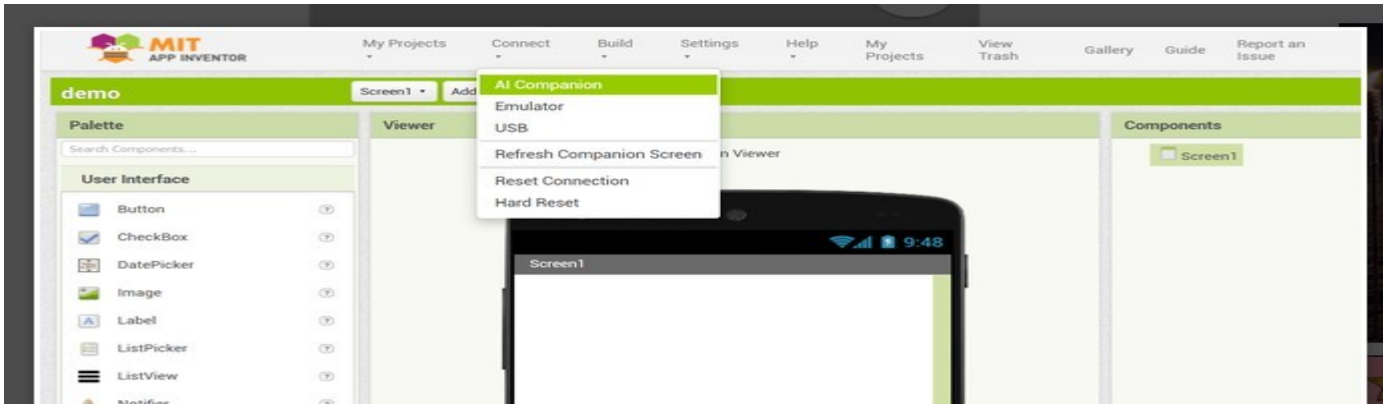
Step 4: We need to connect both mobile devices & laptops/desktop should be connected to the same WiFi network.

Step 5: To start the app-building click on “Start New Project”.



Step 6: To connect your mobile device, choose “Connect” and “AI Companion” from the top menu.

Step 7: Now to connect the MIT AI2 App on your device and desktop/laptop scan the QR code or type the 6 digit code which is appearing on your PC screen.



Step 8: Now you can see the app you are building on your device.

ARDUINO

What is an Arduino?

Arduino is an open-source hardware and software company, project, and user community that designs and manufactures single-board the microcontrollers and microcontroller kits for building digital devices.

What is a sensor and types of sensors ?

An electronic device that senses and responds quickly to physical changes such as distance, pressure, temperature, touch can be referred to as sensors. These are used commercially in various products for the temperature monitoring, alarming circuits, and the Home automation kits, etc…

In the practical world, where the motive is to design a user-names friendly environment such that various devices information can be the controlled, sent, and monitored. This is made possible when the multi multiple sensors are interfaced with the Arduino board.

Types and Applications of Arduino Sensor

Arduino on its board has introduced multiple sensors where each of the sensor utilized is application-oriented.

Types of Sensors

List of Projects :

1.MIT App Controlled Robot

2.Robotic Arm

3.All in one Security System

4.Light Following Robot

5.Line Follower Robot

MICROBIT MAKECODE

What is an Microbit Makecode?

Microbit Makecode is a free online learn to code platform where Anyone can build games,code devices,and mod Minecraft!

What is Microbit Used For?

Games Create retro mobile phone games everybody loved like ‘snake’ Or your very own game ideas.

What is a sensor and types of sensors ?

An electronic device that senses and responds quickly to physical and changes such the distance, pressure, temperature, touch can be referred to as sensors. These are used commercially in various products for the temperature monitoring, alarming circuits, and the Home automation kits, etc…

In the practical world, where the motive is to design a user-friendly friendly environment such that various devices information can be the controlled, sent, and monitored. This is made possible when the multi multiple sensors are interfaced with the Arduino board.

Microbit better than Arduino

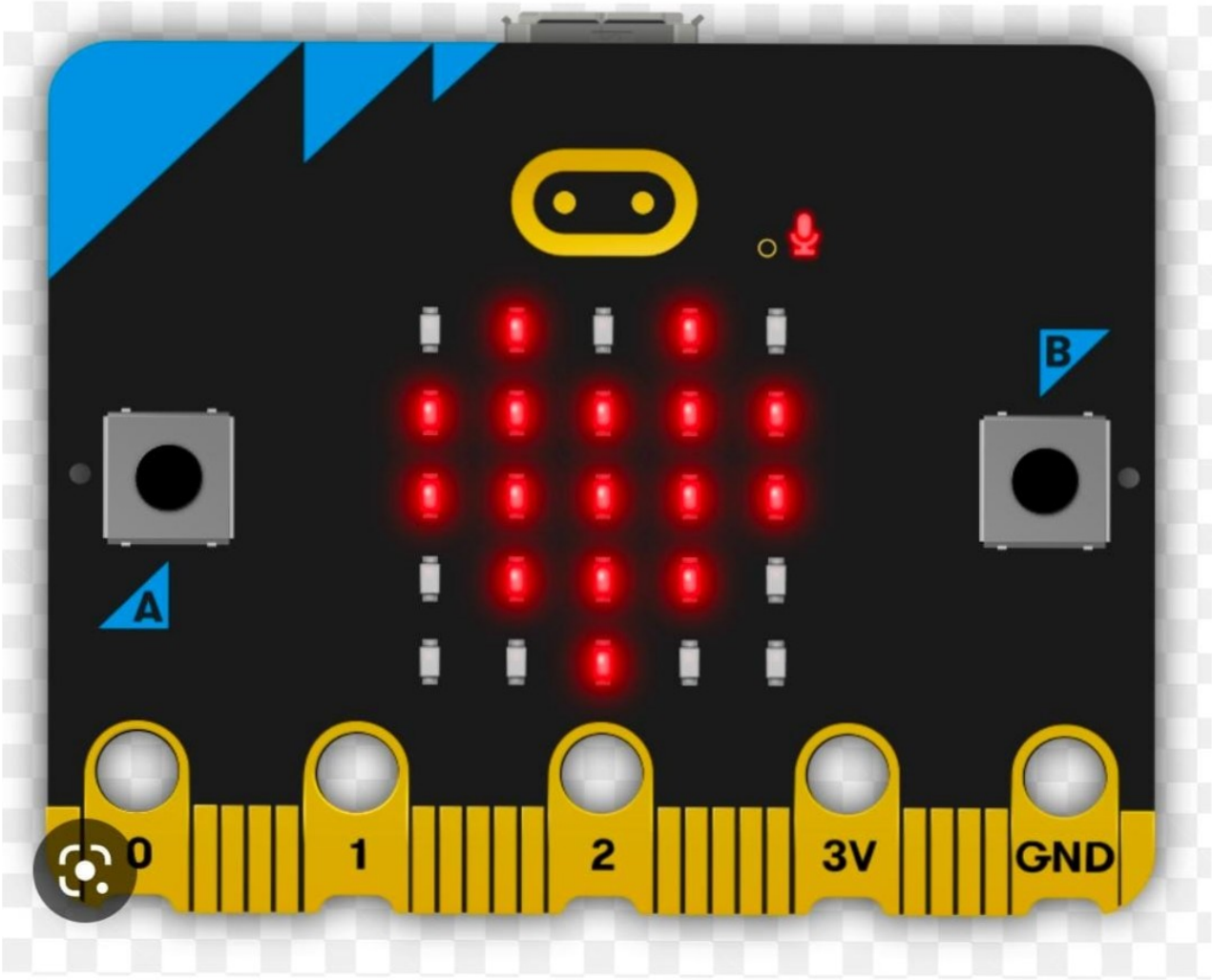
Overall,the microbit generally has more processing power and the Memory than the Arduino.The main reason you might choose for the Microbit is that its LED display can acts as a visual screen in itself to You can interact with it with the buttons on either side.

MICROBIT

Microbit is a mini computer .it is powered by makecode ,an online Block-based code editor based on the Microsoft programming and Experience

It is a simple as plugging the cable into your microbit and the other End to Into an open USB port

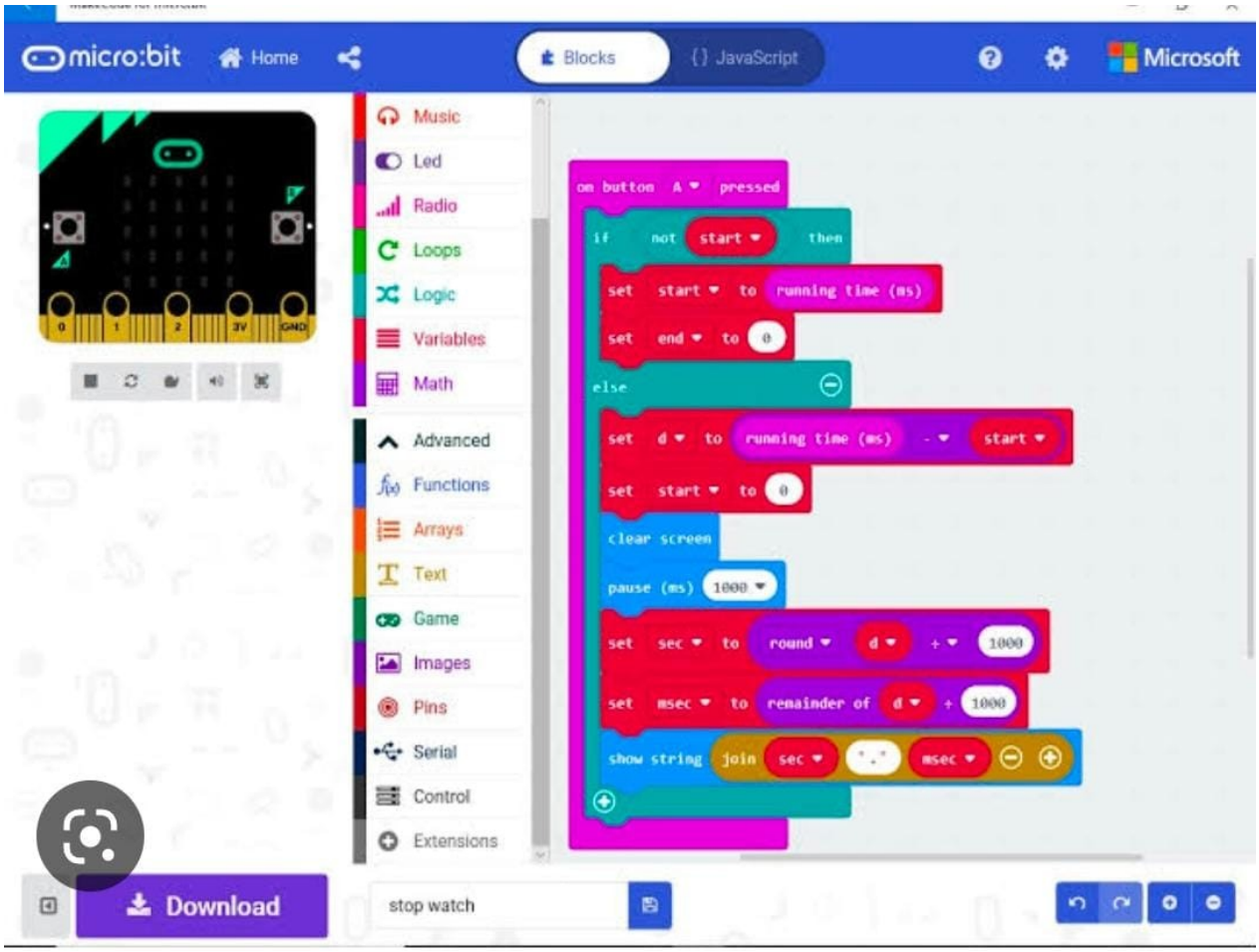
Once your plug your board in,you should see the small yellow LED On the back of your microbit light up and possibly blink few times. Then Whatever existing program that was put on the microbit will Start runnning.



How to add the Blocks in Microbit?

Blocks snap into each other to define the program that your microbit will run.
Blocks can be event (buttons,shake,Logo,....) or need to be snapped Into an event to run.The on start event runs first.

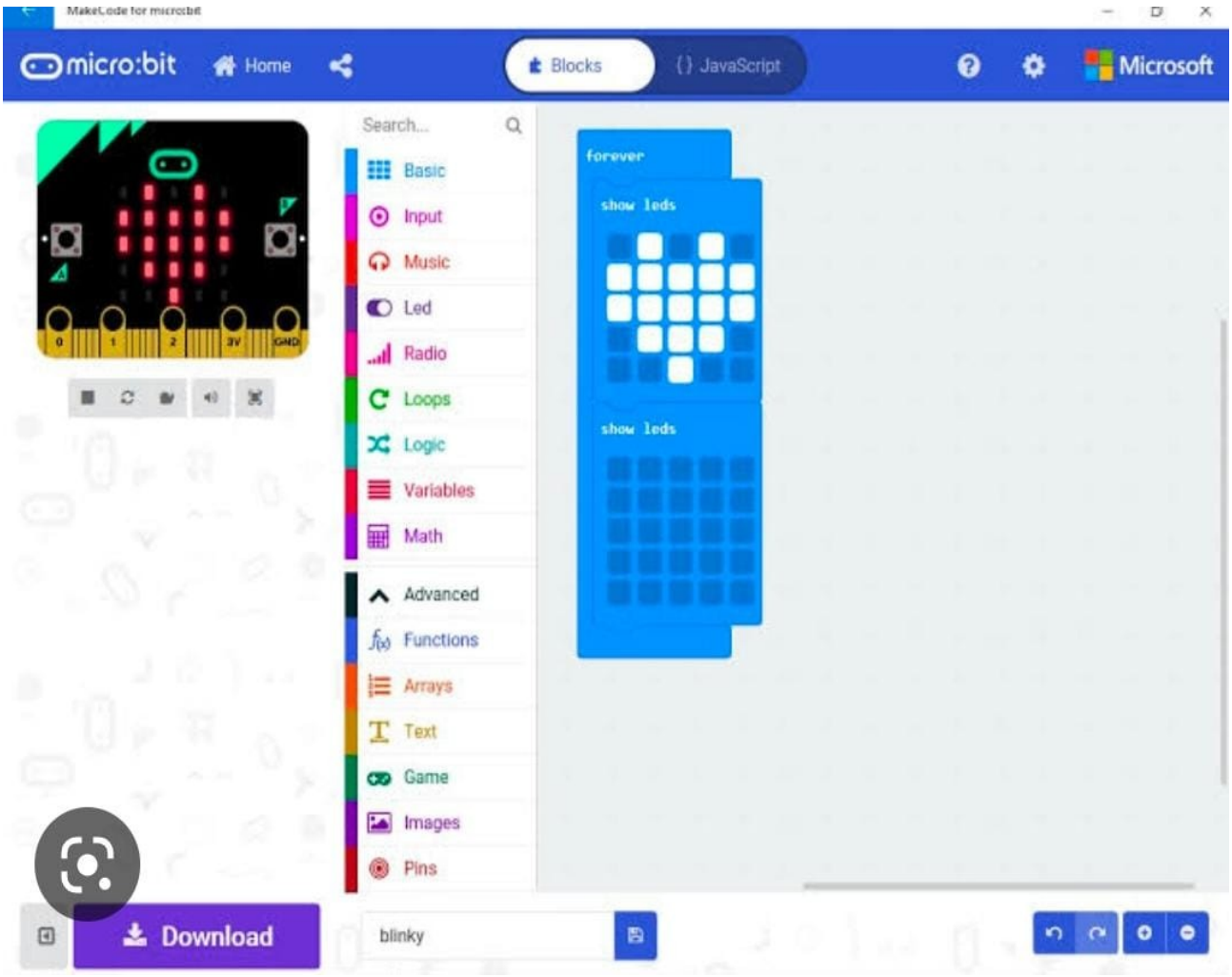
Download your program as a.hex file from the code editor to your Computer ,Usually to your downloads folder.
Then drag and drop the hex.file on to the MICROBIT drive.



How to add the Leds in Microbit?

An LED,or light emitting diode is an output device that gives off Light.Your microbit has a display of 25 LEDs for you to program. Blocks can be event (buttons,shake,Logo,....) or need to be snapped Into an event to run.The on start event runs first.

Download your program as a.hex file from the code editor to your Computer ,Usually to your downloads folder.
Then drag and drop the hex.file on to the MICROBIT drive.



What is an Onstart in Microbit?

The on start is a special event that runs when the program starts, before any other event.
Use this event to initialize your program.In this example,on start set The dimmer brightness on the screen and the button handler shows a String. Show string on button A pressed 50 set brightness on start.

The On Start block is all of your code that will execute at the very Beggining of your program and only run once.The forever block is Code that will loop over and over again.

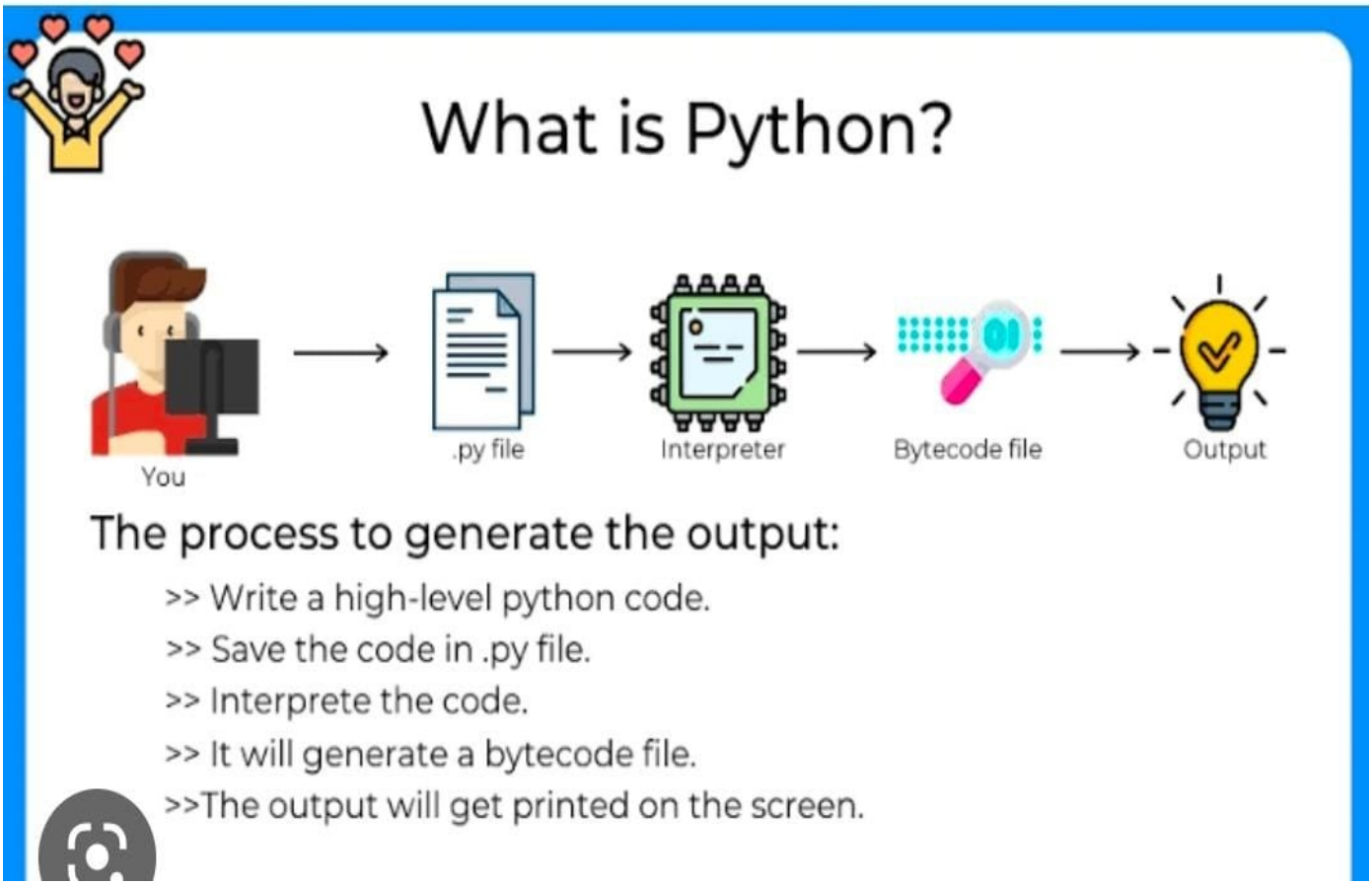
What is PYTHON?

Python is a computer programming language often used to often used to build website and software,automate tasks,and conduct data and the Analysis.

Python is a general purpose language ,meaning it can be used to the Create a variety of different programs and isn't specialized for any to Specific problems.

EXAMPLE:

Python is a very popular general-purpose interpreted,interactive Object -oriented,and high-level programming language.



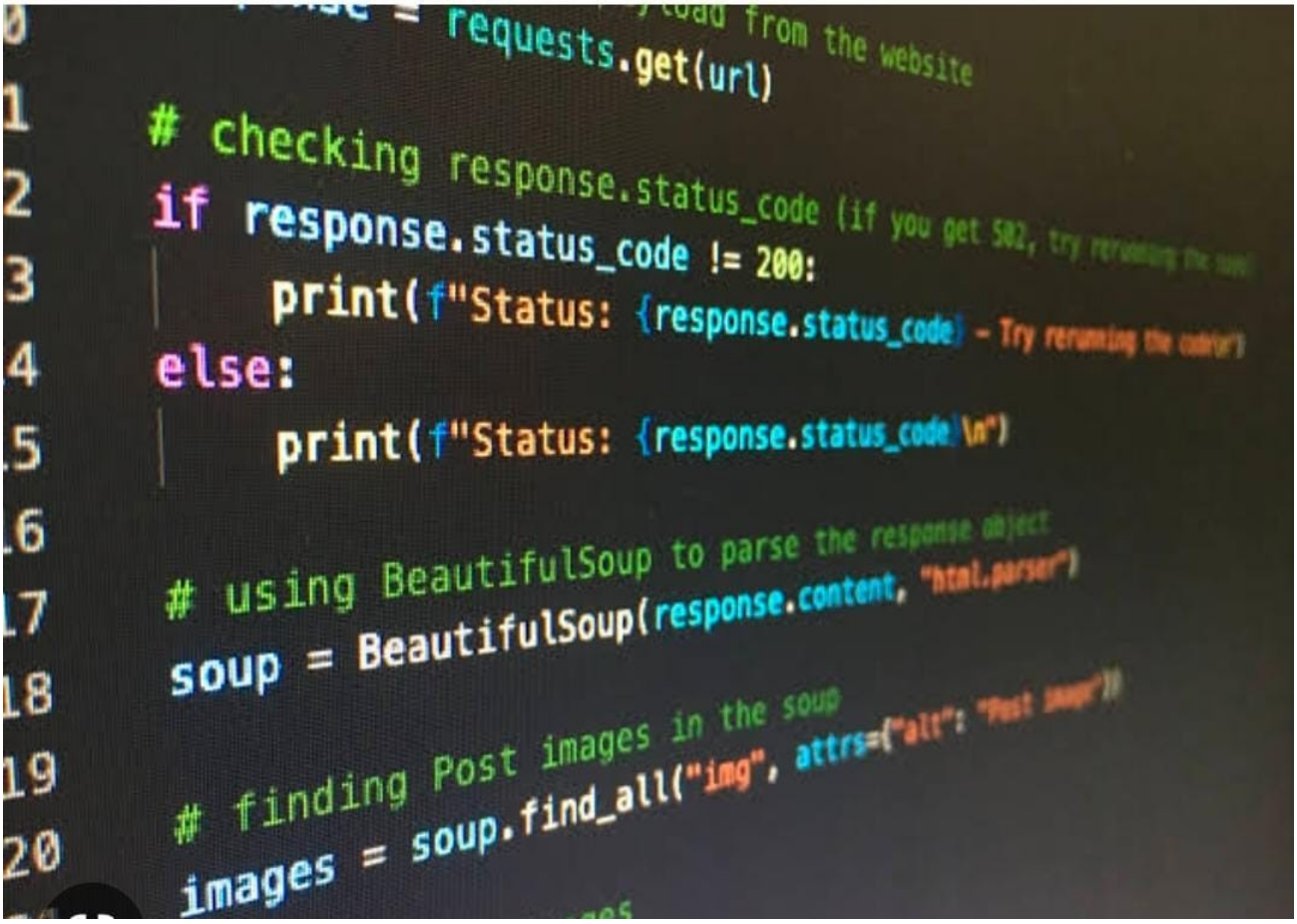
What are basics of python?

Python has a simple syntax similar to the English language. Python has syntax that allows developers to write programs with With and the Features.

Python fewer than some other programming language. Python runs An interpreter system ,meaning that code can be executed as soon As it is written .This means that prototyping can be the quick.

What are the advantages of python?

Easy -to -integrate with other programming Language.



Conclusion

The work experiences I encountered during the internship allowed me to get practical experience. I think I still require to work on some technical skills. But, the overall experience was positive, and everything I learned would be useful in my future career in this field.

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