Experiment 1

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Branch: CSE **Section/Group: 603-A**
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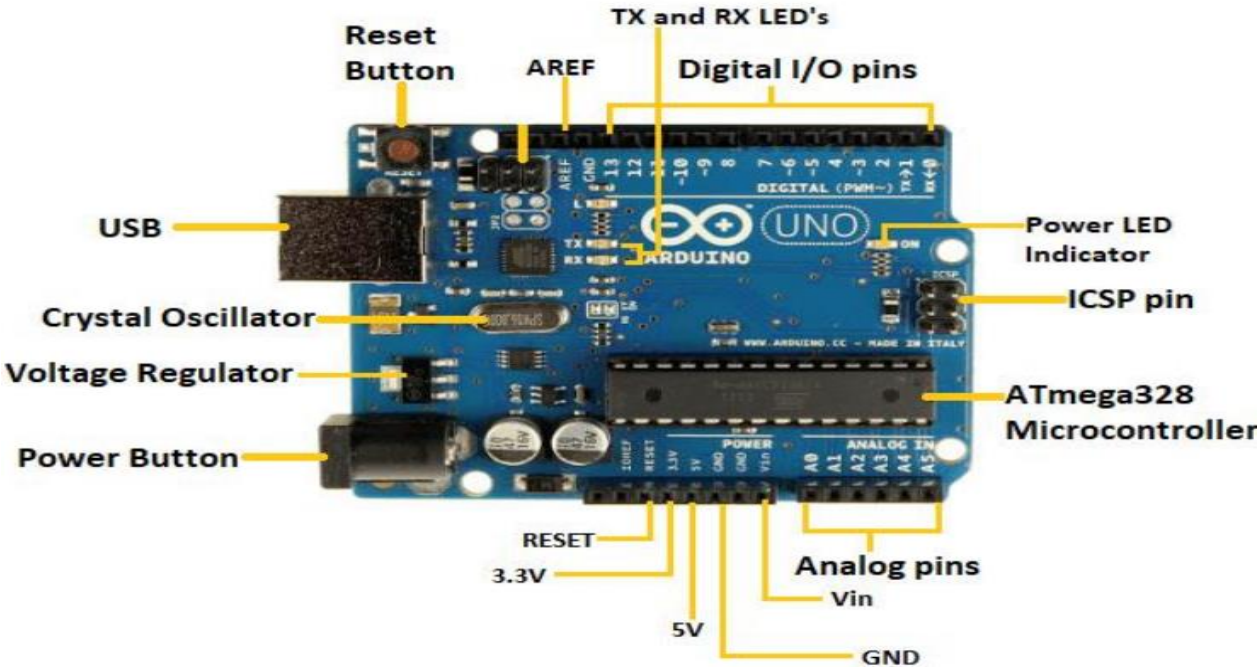
Subject Name: IoT Architecture and Its Protocols Lab **Subject Code: 22CSP-329**

1. **Aim/Objective-**
   To connect Arduino Uno controller to a computer system/laptop and complete the essential.

2. **Input/Equipment Used-**
   1. Arduino Uno
   2. Connecting Cable

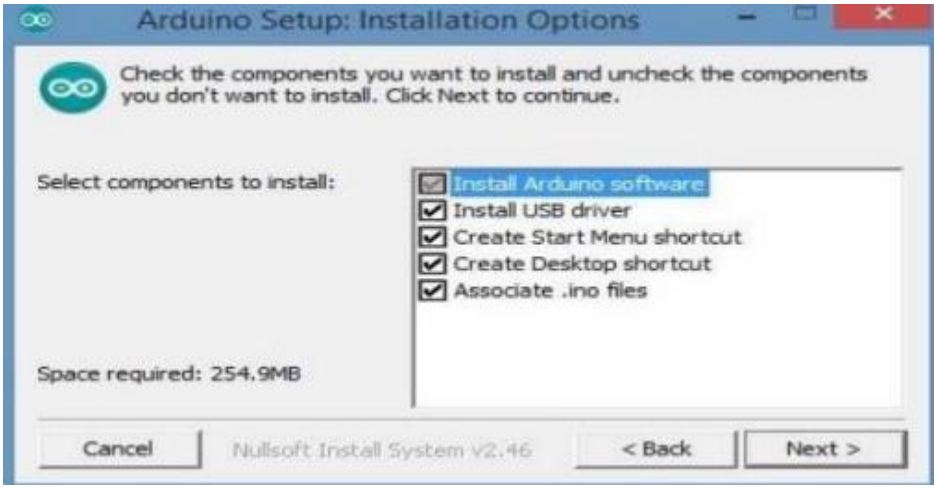
3. **Procedure-**
   An Arduino is actually a micro controller based kit. It is basically used in communications and in controlling or operating many devices. Arduino UNO board is the most popular board in the Arduino board family.
   It consists of two memories- Program memory and the data memory



INSTALLING THE ARDUINO IDE

1. Visit http://www.arduino.cc/en/main/software to download the latest Arduino IDE version for your computer's operating system. There are versions for Windows, Mac, and Linux systems. At the download page, click on the "Windows Installer" option for the easiest installation.
2. Save the .exe file to your hard drive.
3. Open the .exe file.
4. Click the button to agree to the licensing agreement

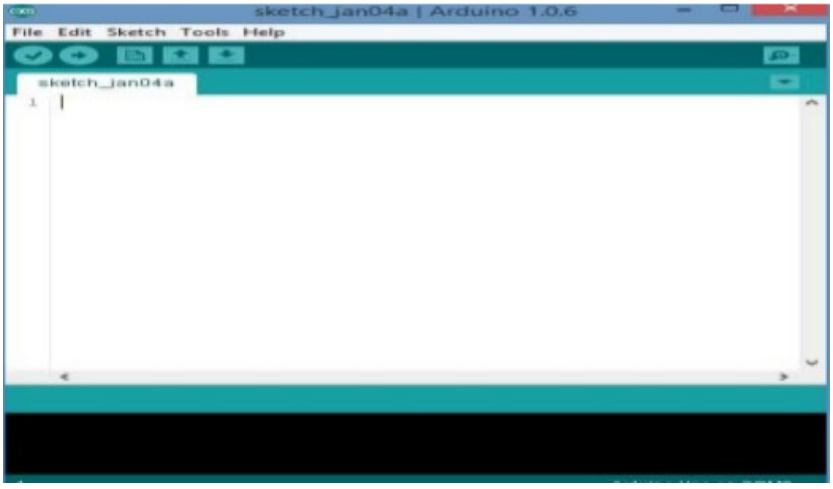
5.Decide which components to install, then click "Next"



6.Select which folder to install the program to, then click "Install"

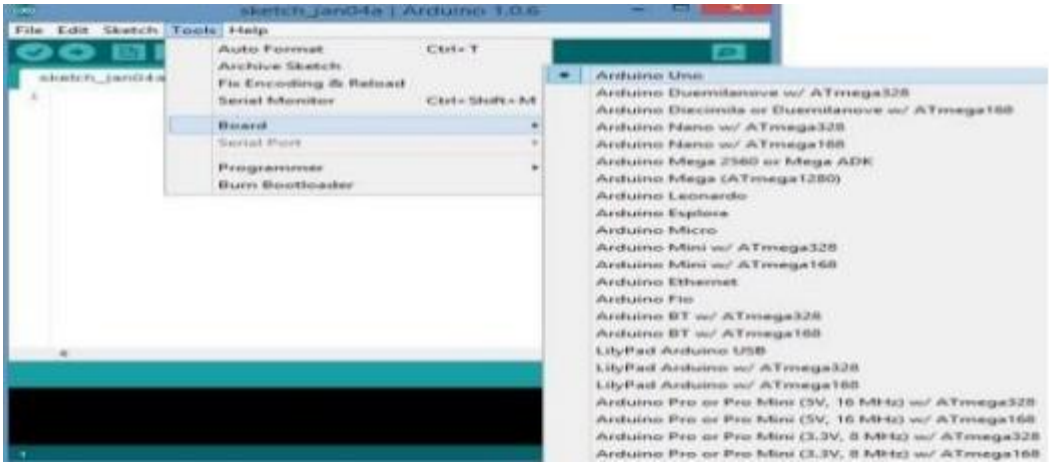
7. Wait for the program to finish installing, and then click “Close”

8. Now find the Arduino shortcut on your Desktop and click on it. The IDE will open up and you’ll see the code editor



CONFIGURING THE ARDUINO IDE

The next thing to do is to make sure the software is set up for your particular Arduino board. Go to the "Tools" drop-down menu, and find "Board". Another menu will appear, where you can select from a list of Arduino models. I have the Arduino Uno R3, so I chose "Arduino Uno"



4. **Conclusion-**

Successfully connected Arduino Uno controller to a computer system/laptop and completed the essential.

5. **Learning Outcomes-**

a. Gain knowledge of the different components that make up an IoT system and how they interact to achieve specific functionalities.
b. Understand the fundamental architecture of IoT systems, including sensors and its components.
c. Understand the internal architecture and functioning of the Arduino Uno microcontroller, including its input/output pins, analog/digital conversions, and communication interfaces.
d. Learn the basic functionality of Arduino UNO.