**ASSIGNMENT 1**

* **Prototype? Open-Source and Closed-Source Prototype Platforms:**

A prototype is an early sample, model, or release of a product built to test a concept or process.

* Open-source: Open source is source code that is made freely available for possible modification and redistribution.

E.g. Arduino, Raspberry Pi.

* Closed**-**source: Closed-source model source code is not released to the public, i.e. it is not available on the public domains.

E.g.Google Earth, Skype, WinRAR, Microsoft Windows, Mac OS

* **Arduino?**

Arduino is a small popular electronic machine that makes it very easy for people to make electronic things.

It has two parts:

* a Circuit Board
* a program that lets people tell the circuit board what to do.
* **Arduino Uno R3 Key Specifications:**
* Main Processor:
* ATmega328P, a modified Harvard architecture 8-bit RISC\* processor core. \*Reduced Instruction Set Computer
* Memory (SRAM, FLASH MEMORY, EEPROM):
* SRAM:Static Random Access Memory a type of RAM which uses a flip-flop to store 1-bit of data.

1. The system's temporary data or run-time data is stored in the SRAM; with a size of 2KB.

* FLASH MEMORY: In Arduino, the Flash stores the application code to be run.

1. The Size of Flash Memory is 32KB.

* EEPROM:An Electrically Erasable Programmable Read-Only Memory. It is a form of non-volatile memory that can remember things with the power being turned off, or after resetting the Arduino.

1. The Size of EEPROM is 1KB.

* I/O Pins:
* An Arduino has 14 digital input/output pins (of which 6 can be used as PWM\* outputs), 6 analog inputs.