CO: Plotter, Monitor

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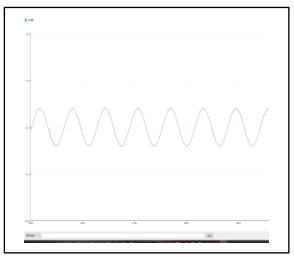
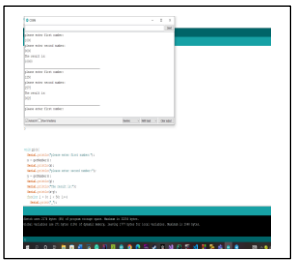
I. Problem Statement

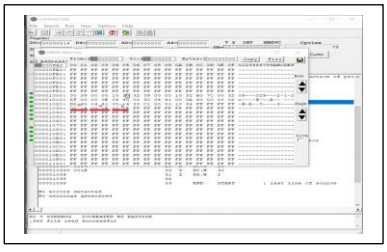
Q1. •You are required to use serial monitorin Arduino to perform a simple arithmetic operation.•You should use the serial monitor to send an up to 4 digits unsigned number followed by a "newline" character to signal the end of input. Then you enter another up to 4 digits unsignednumber followed by a "newline" character. The Arduino then must add these two numbers and outputs the result in the serial monitor. (Use the "newline" tab on serial monitor to send newline when pressing 'Enter').•Every time you enter a number (4 digits) the Arduino must print this number on the screen.•A sample run of the program should produce a similar image

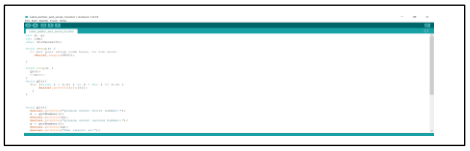
Q2. You are required to plot a sin wave using Arduino serial plotter.

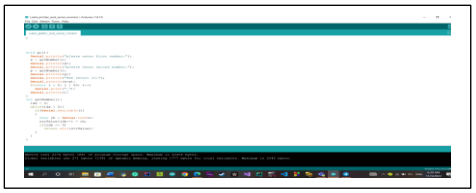
II. Serial Monitor & Plotter











III. Code

```
int x, y;
int idx;
char strValue[5];

void setup() {
  // put your setup code here, to run
once:
    Serial.begin(9600);

}

void loop() {
  Q1();
  //Q2();
}
void Q2(){
  for (float i = 0.0; i <= 2 * PI; i +=
0.1) {
      Serial.println(sin(i));
   }
}



void Q1(){
  Serial.println("please enter first
number:");
  x = getNumber();
  Serial.println(x);
```

```
  Serial.println("please enter second
number:");
  y = getNumber();
  Serial.println(y);
  Serial.println("The result is:");
  Serial.println(x+y);
  for(int i = 0; i < 50; i++)
    Serial.print("_");
  Serial.println();
}
int getNumber(){
  idx = 0;
  while(idx < 5){
    if(Serial.available())
    {
      char ch = Serial.read();
      strValue[idx++] = ch;
      if(idx == 5)
        return atoi(strValue);
    }
  }
}
```

IV. External sources

This website.

V. Observations on experiment b

The observation is related to the delay, when we reduce it's drawn faster, when we increase it we slow down the time of plotting. No challenges were faced.