Class: CS1/CS2/CS3/CS4/CS5

Date: October 15th– 19th, 2024

Subject: Digital Logic Design
Time Allowed: Till Next lab start
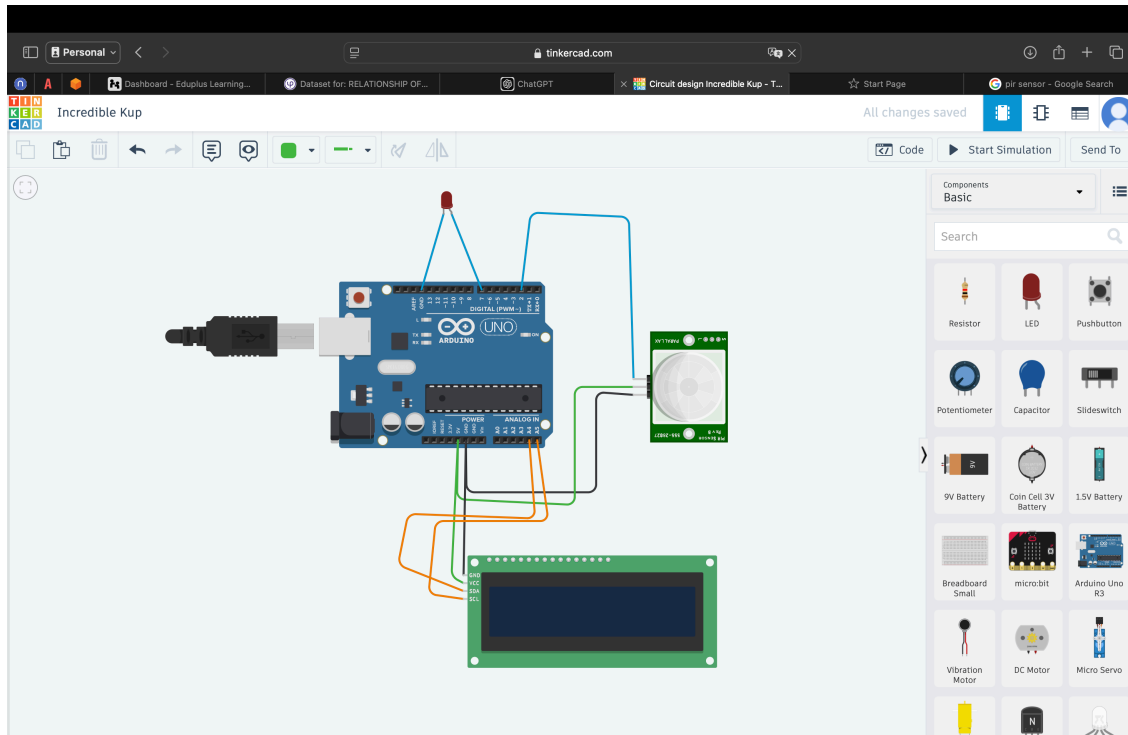Name: Suvonkulov Abdulaziz

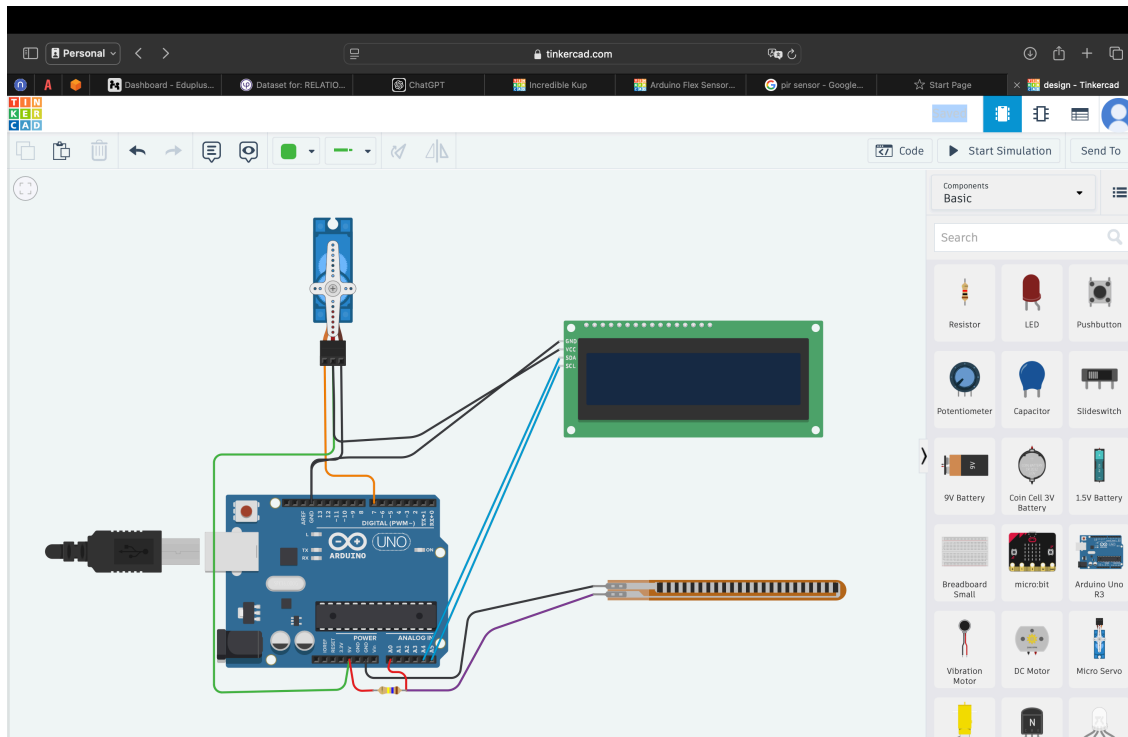Instructor: Dr. M. Bilal Qureshi
Max Marks: 10
Student ID # 220456

Task 1:

Task 2

```cpp
#include<Wire.h>
#include<LiquidCrystal_I2C.h>
#include<Servo.h>
Servo m;
LiquidCrystal_I2C lcd(32,16,2);
void setup()
{
  pinMode(A0,INPUT);
  m.write(0);
  m.attach(7);
  Serial.begin(9600);
  lcd.init();
  lcd.backlight();
}
void loop()
{
  float sensor= analogRead(A0);
  float bendpercent = ((sensor -159)/352)*100;//normalized 0
to 1 and then %
  float bendangle = ((sensor -159)/352)*180;//normalized 0
to 1 and then %
  float Vflex = 5*(sensor)/1023;
  float Rflex = (Vflex*163000)/(5-Vflex);
  Serial.print("Flex Resistance is = " + String(Rflex/1000)
+" Kohms");
  float degree=map(sensor,159,511,0,180);
  Serial.println(" and Flex degree is = " + String(degree));
  m.write(degree);
  lcd.setCursor(0,0);
```

```
  lcd.print("Servo Angle=" + String(degree));
  lcd.setCursor(0,1);
  lcd.print("Rflex=" + String(Rflex/1000) + "Kohm");

  delay(1000);
}
```