SPRINT 1

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SENSOR CONNECTION

```
#include <LiquidCrystal_I2C.h>
LiquidCrystal_I2C lcd(0x27, 20, 4);
float cm;
float inches;


#define ECHO_PIN 12
#define TRIG_PIN 13
float dist;

void setup()
{
 Serial.begin(115200);
 pinMode(LED_BUILTIN, OUTPUT);
 pinMode(TRIG_PIN, OUTPUT);
 pinMode(ECHO_PIN, INPUT);
 //pir pin
 pinMode(34, INPUT);

 //ledpins
 pinMode(23, OUTPUT);
 pinMode(22, OUTPUT);
 pinMode(21, OUTPUT);
 pinMode(15, OUTPUT);
```

```
  lcd.init();
  lcd.backlight();
  lcd.setCursor(1, 0);
  lcd.print("");
}

float readcmCM()
{
  digitalWrite(TRIG_PIN, LOW);
  delayMicroseconds(2);
  digitalWrite(TRIG_PIN, HIGH);
  delayMicroseconds(10);
  digitalWrite(TRIG_PIN, LOW);
  int duration = pulseIn(ECHO_PIN, HIGH);
  return duration * 0.034 / 2;
}

void loop()
 {


  if(digitalRead(34))
  {
    Serial.println("Motion Detected");
    Serial.println("Lid Opened");
    digitalWrite(10, HIGH);
    delay(10000);
    Serial.println("Lid Closed");

  }
```

```
 else
 {
  digitalWrite(10, LOW);
 }

 if(cm <= 100)
 {
  digitalWrite(21, HIGH);
  Serial.println("High Alert!!!,Trash bin is about to be full");
  digitalWrite(22, LOW);
  digitalWrite(23, LOW);
 }
 else if(cm > 150 && cm < 250)
 {
  digitalWrite(22, HIGH);
  Serial.println("Warning!!,Trash is about to cross 50% of bin level");
  digitalWrite(21, LOW);
  digitalWrite(23, LOW);
 }
 else if(cm > 250 && cm <=400)
 {
  digitalWrite(23, HIGH);
  Serial.println("Bin is available");
  digitalWrite(21, LOW);
  digitalWrite(22, LOW);
 }

float inches = (cm / 2.54);
 lcd.setCursor(0,0);
          lcd.print("Inches");
          lcd.setCursor(4,0);
```

```
        lcd.setCursor(12,0);
        lcd.print("cm");
        lcd.setCursor(1,1);
        lcd.print(inches, 1);
        lcd.setCursor(11,1);
        lcd.print(cm, 1);
        lcd.setCursor(14,1);
        delay(1000);
        lcd.clear();

}
```