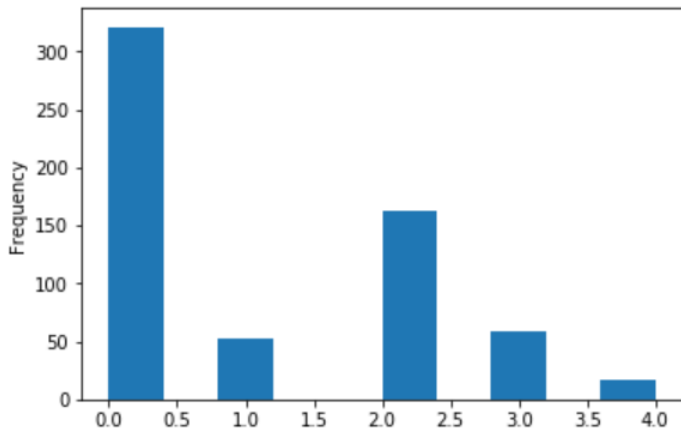


APPENDIX-I

PHOTOGRAPHS

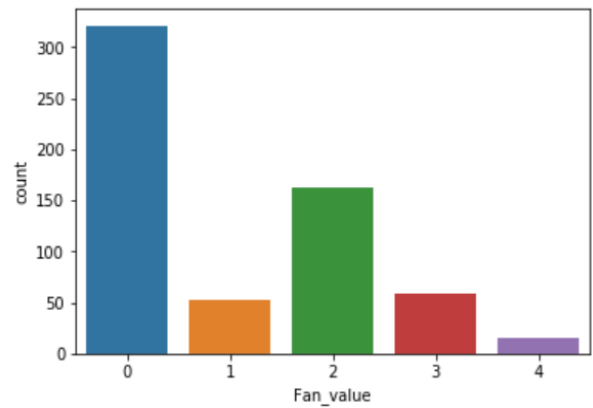
```
train['Fan_value'].plot.hist()
```

<matplotlib.axes._subplots.AxesSubplot at 0x231b05de>



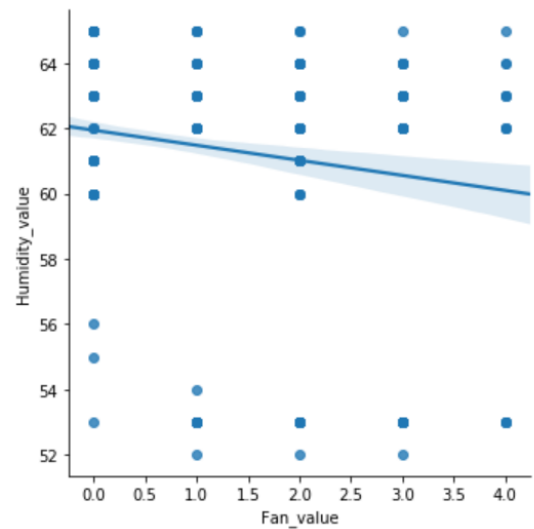
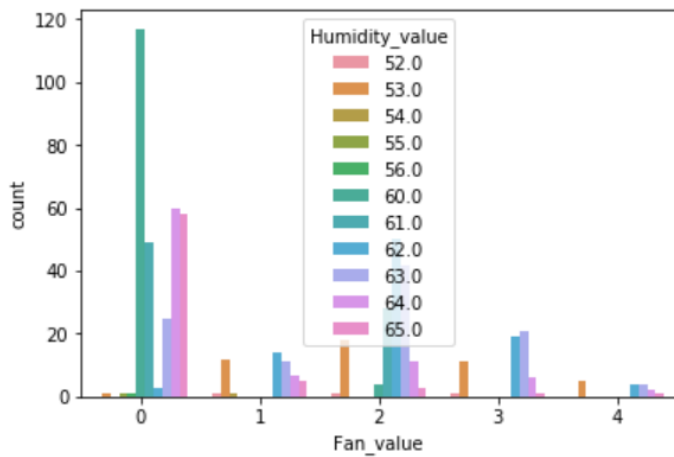
```
sns.countplot(x='Fan_value', data=train)
```

<matplotlib.axes._subplots.AxesSubplot at 0x231b26faef0>



```
sns.countplot(x='Fan_value', hue='Humidity_value', data=train)
```

<matplotlib.axes._subplots.AxesSubplot at 0x231b28b60>



```
print(predictions)
```

```
[2 0 2 2 0 0 2 2 2 2 0 2 0 2 0 2 2 2 0 2 0 0 0 0 0 0 2 2 2 2 0 2 2 2 2 0
 2 0 0 0 0 2 2 0 0 2 0 0 2 2 0 0 0 0 2 2 2 0 0 0 2 2 2 2 0 0 2 2 2 2 0
 2 2 0 0 2 2 0 0 0 0 0 2 0 2 0 2 2 2 0 2 0 2 2 0 0 2 2 0 0 2 2 0 2
 0 0 0 2 2 0 0 0 0 0 0 2 0 0 0 2 0 0 2 2 0 2 2 0 0 2 0 2 2
 0 0 0 2 0 2 2 0 2 0 0 2 0 2 0 2 2 2 2 2 2 2 0 0 0 0 2 0 0 0 2 2
 0 0 2]
```

APPENDIX - II

SOURCE CODE

Humidity and Temperature File

```
#include "config.h"

#include "GoogleAssistant.h"

/***** Code Starts Here *****/

#include <Adafruit_Sensor.h>

#include "DHT.h"

#include "SPI.h"

#define DHTTYPE DHT11

DHT dht(DHTPIN, DHTTYPE);

const int ldrPin = A0;

int lr, r;

// set up the 'temperature' and 'humidity' feeds

AdafruitIO_Feed *temperature = io.feed("Temperature"); //Send Temperature

AdafruitIO_Feed *humidity = io.feed("Humidity"); //Send Humidity

AdafruitIO_Feed *fs = io.feed("Fs"); //for controlling the speed of the fan

AdafruitIO_Feed *lights = io.feed("lights"); //ON or OFF the light

AdafruitIO_Feed *li = io.feed("li"); //Send LUX

void setup() {

    Serial.begin(115200); // start the serial connection

    while (! Serial); // wait for serial monitor to open

    dht.begin(); // initialize dht22

    Serial.print("Connecting to Adafruit IO");

    io.connect(); // connect to io.adafruit.com

    fs->onMessage(handleMessage);
```

```

lights->onMessage(lifhtscheck);

while (io.status() < AIO_CONNECTED) // wait for a connection {

  Serial.print(".");

  delay(500);

}

Serial.println();

Serial.println(io.statusText());

pinMode(ldrPin, INPUT);

pinMode(D2, OUTPUT);

pinMode(D3, OUTPUT);

pinMode(D4, OUTPUT);

pinMode(D5, OUTPUT);

pinMode(D6, OUTPUT);

}

void loop() {

  io.run();

  float c = dht.readTemperature();

  Serial.print("celsius: ");

  Serial.print(c);

  Serial.println("C");

  temperature->save(c);

  float h = dht.readHumidity();

  Serial.print("humidity: ");

  Serial.print(h);

  Serial.println("%");

  humidity->save(h); // save humidity to Adafruit IO

  Serial.print("Light Intensity:");

```

```

int in = analogRead(ldrPin) - 7;

Serial.print(in);

Serial.println(" Lux");

li->save(in);

if (r == 0)
{
    digitalWrite(D2, HIGH);
    digitalWrite(D3, HIGH);
    digitalWrite(D4, HIGH);
    digitalWrite(D5, HIGH);
    Serial.println(r);
}

else if (r == 1)
{
    digitalWrite(D2, LOW);
    digitalWrite(D3, HIGH);
    digitalWrite(D4, HIGH);
    digitalWrite(D5, HIGH);
    Serial.println(r);
}

else if (r == 2)
{
    digitalWrite(D3, LOW);
    digitalWrite(D2, HIGH);
    digitalWrite(D4, HIGH);
    digitalWrite(D5, HIGH);
    Serial.println(r);
}

else if (r == 3)
{
    digitalWrite(D4, LOW);

```

```

    digitalWrite(D2, HIGH);

    digitalWrite(D3, HIGH);

    digitalWrite(D5, HIGH);

    Serial.println(r);
}

else if (r == 4)

{ digitalWrite(D5, LOW);

  digitalWrite(D2, HIGH);

  digitalWrite(D4, HIGH);

  digitalWrite(D3, HIGH);

  Serial.println(r);

}

if (lr == 1)

{ digitalWrite(D6, LOW);

  Serial.println("ON");

}

else if (lr == 0) {

  digitalWrite(D6, HIGH);

  Serial.println("OFF");

}

delay(5000); // wait 5 seconds (5000 milliseconds == 5 seconds)

}

void handleMessage( AdafruitIO_Data *data) {

  r = data-> toInt();

} void lifhtscheck( AdafruitIO_Data *data)

{ lr = data-> toInt();

}

```

APPENDIX-III

DATASHEETS

A	B	C	D	E
Humidity_value	date_time	Temperature_value	li_value	Fan_value
65	2019-05-23 17:31:11	29	660	2
65	2019-05-23 17:31:17	29	659	1
65	2019-05-23 17:31:24	29	669	1
65	2019-05-23 17:31:30	29	642	0
65	2019-05-23 17:31:38	29	599	1
65	2019-05-23 17:31:45	29	569	1
65	2019-05-23 17:31:49	29	582	2
65	2019-05-23 17:31:55	29	560	3
65	2019-05-23 17:32:02	29	579	4
65	2019-05-23 17:32:11	29	565	2
65	2019-05-23 17:32:15	29	588	0
65	2019-05-23 17:32:21	29	619	1
65	2019-05-23 17:32:29	29	585	0
65	2019-05-23 17:32:34	29	578	0
65	2019-05-23 17:32:40	29	620	0
64	2019-05-23 17:32:46	29	593	1
64	2019-05-23 17:32:55	29	587	1
64	2019-05-23 17:32:59	29	589	0
64	2019-05-23 17:33:06	29	581	2
64	2019-05-23 17:33:12	29	593	3
64	2019-05-23 17:33:18	29	630	2