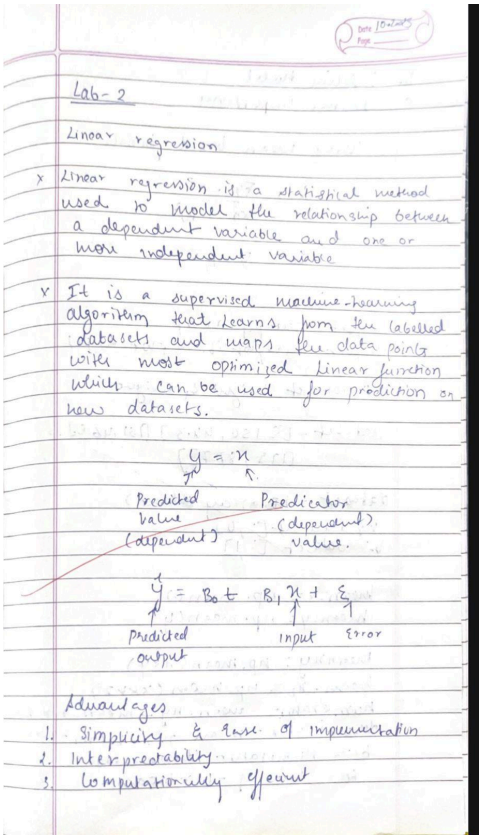
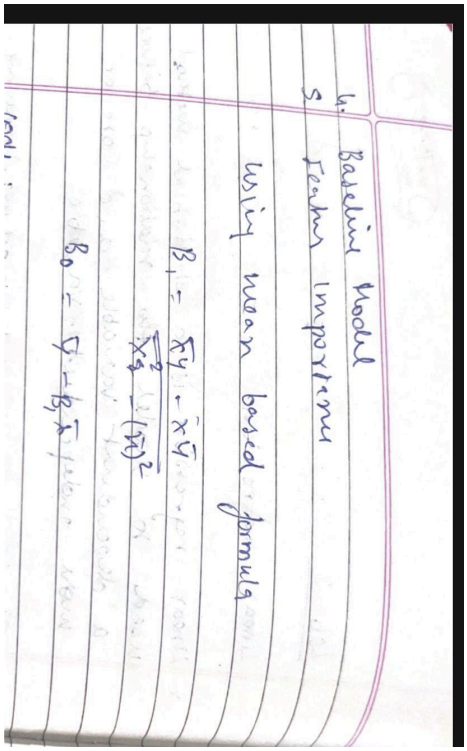
Implement Linear and Multi-Linear Regression algorithm using appropriate dataset





Code:

```
import random
import matplotlib.pyplot as plt

def LR_formula(x: list[int], y: list[int]):
  sum_x = 0
  sum_y = 0
  sum_xy = 0
  sum_x2 = 0
  for a, b in zip(x, y):
    sum_x = sum_x + a
    sum_y = sum_y + b
    sum_xy += a * b
    sum_x2 += a ** 2
```

```
  xy_mean = sum_xy / len(x)
  x_mean = sum_x / len(x)
  y_mean = sum_y / len(x)
  x2_mean = sum_x2 / len(x)

  b1 = (xy_mean - x_mean * y_mean) / (x2_mean - x_mean ** 2)
  b0 = y_mean - b1 * x_mean
  return b0, b1

def predict(b0: int, b1: int, x: int):
  return b0 + b1 * x

xarr = [x for x in range(1, 31)]
yarr = [round(2 * x + 10 + random.uniform(-5, 5), 2) for x in xarr]

print(xarr)
print(yarr)

b0, b1 = LR_formula(xarr, yarr)
y = predict(b0, b1, 32)
print(f"Predicted Value: {round(y)}")

plt.scatter(xarr, yarr, color='blue', label='Data points')
plt.plot(xarr, [predict(b0, b1, x) for x in xarr], color='red',
label='Regression line')

plt.xlabel('X values')
plt.ylabel('Y values')
plt.title('Linear Regression: Data points and Regression Line')

plt.legend()

plt.show()
```

Output:

```
[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30]
[15.3, 16.42, 15.69, 16.29, 22.42, 21.16, 25.91, 23.27, 26.36, 28.94, 36.2, 29.73, 40.72, 35.78, 39.9, 41.44, 48.63, 42.13, 47.99, 51.76, 47.17, 58.82, 52.17, 54.78, 63.16, 65.8, 59.0
Predicted Value: 73
```