```
import pandas as pd
import matplotlib.pyplot as plt


data=pd.read_csv("/content/student_scores - student_scores.csv")
```

+ Code + Text

```
data.tail()
```

	Hours	Scores
20	2.7	30
21	4.8	54
22	3.8	35
23	6.9	76
24	7.8	86

```
data.isnull().sum()
```

```
Hours     0
Scores    0
dtype: int64
```

```
x=data.Hours
print(x)
```

```
0     2.5
1     5.1
2     3.2
3     8.5
4     3.5
5     1.5
6     9.2
7     5.5
8     8.3
9     2.7
10    7.7
11    5.9
12    4.5
13    3.3
14    1.1
15    8.9
16    2.5
17    1.9
18    6.1
19    7.4
20    2.7
21    4.8
22    3.8
23    6.9
24    7.8
Name: Hours, dtype: float64
```

```
y=data.Scores
print(y)
```

```
     0     21
     1     47
     2     27
     3     75
     4     30
     5     20
     6     88
     7     60
     8     81
     9     25
     10    85
     11    62
     12    41
     13    42
     14    17
     15    95
     16    30
     17    24
     18    67
     19    69
     20    30
     21    54
     22    35
     23    76
     24    86
     Name: Scores, dtype: int64
```

```
n=len(x)
m=0
c=0
L=0.01
```

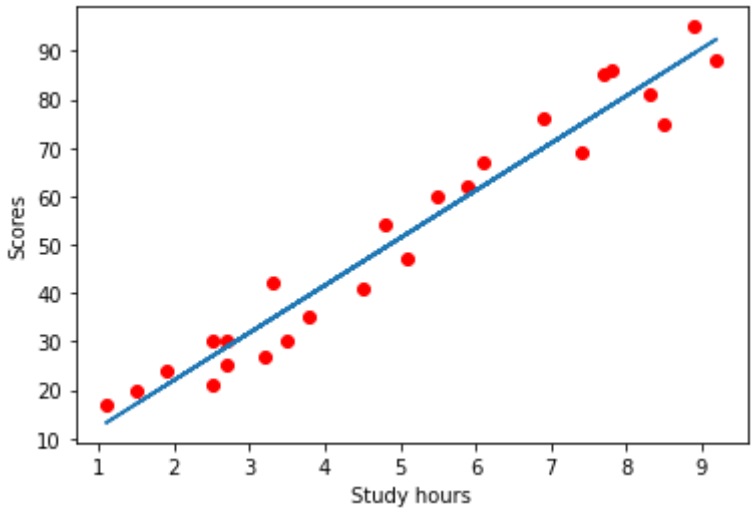
```
loss=[]
for i in range(10000):
  ypred=m*x+c
  MSE=(1/n)*sum((ypred-y)*2)
  dm=(2/n)*sum(x*(ypred-y))
  dc=(2/n)*sum(ypred-y)
  c=c-L*dc
  m=m-L*dm
  loss.append(MSE)
```

```
print(m,c)
```

```
     9.775803390787488 2.4836734053731018
```

```
y_pred=m*x+c
plt.scatter(x,y,color="red")
plt.plot(x,y_pred)
plt.xlabel("Study hours")
```

```
plt.ylabel("Scores")
plt.show()
```




```
plt.title("Study Hours vs Scores")
plt.plot(loss)
plt.xlabel("Iterations")
plt.ylabel("loss")
plt.show()
```