

# Regration Line ¶

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In [2]: from statistics import mean
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
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In [3]: def Liner_line(xs,ys):
    slop =(((mean(xs)*mean(ys)) - mean(xs-ys) )/ ((mean(xs) - mean(xs)) - mean(xs*xs)) )
    b = mean(ys) - slop*(mean(xs))
    return slop,b
```

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In [5]: df = pd.read_csv('data.csv')
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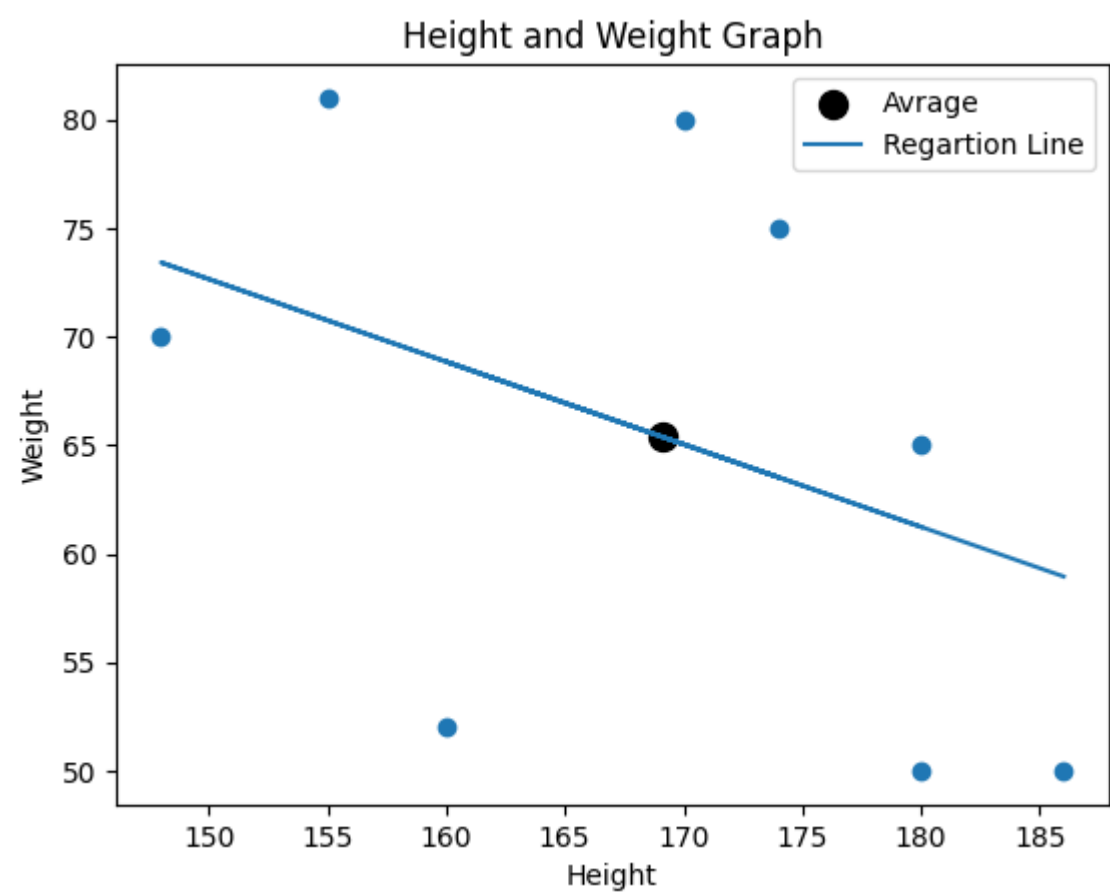
```
In [6]: male_data=df[df['GENDER']=='M']
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In [7]: female_data =df[df['GENDER']=='F']
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In [8]: Height_Data = male_data['HEIGHT'].tolist()
Weight_Data = male_data['WEIGHT'].tolist()
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In [9]: xax=np.array(Height_Data,dtype=np.float64)
yax=np.array(Weight_Data,dtype=np.float64)
my_slop,my_b = Liner_line(xax,yax)
reg_line =list(((my_slop*x) + my_b for x in xax))
xavrage = mean(xax)
yavrage = mean(yax)
```

```
In [10]: plt.scatter(xax,yax)
plt.scatter(xavrage,yavrage,label="Avrage",color="black",s=100) #allover Avrage Prediction
plt.plot(xax,reg_line,label="Regartion Line")
plt.title("Height and Weight Graph")
plt.ylabel("Weight")
plt.xlabel("Height")
plt.legend()
plt.show()
```



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In [ ]:
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In [ ]:
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