In [3]:
```
import pandas as pd
from sklearn.linear_model import LinearRegression
```

In [4]:
```
df=pd.read_csv("f:/dataset/regression/salary_1_variable.csv")
X=df.iloc[:,:-1].values
y=df.iloc[:,-1].values
```

In [5]:
```
model=LinearRegression()
model.fit(X,y)
print(model.coef_)
print(model.intercept_)
```

```
[9449.96232146]
25792.20019866871
```

In [11]:
```
yhat=model.predict(X)
```

In [ ]:
```
>Types of Loss/Error in Regression
---------------------------------
>Residual---------------------->error in individual sample
>OLS(Ordinary Least Squared)-->sum of squares of residuals
>MSE(Mean Squared Error)------->sum of squares of residuals/no. of samples
>RMSE(Root Mean Squared Error)->sqrt(mse)
>MAE(Mean Absolute Error)------>mean(abs(residuals))
>etc.
```

In [16]:
```
residuals=y-yhat
print(residuals)

ols=(residuals**2).sum()
print(ols)

mse=ols/len(y)
print(mse)

import math
rmse=math.sqrt(mse)
print(rmse)

mae=abs(residuals).mean()
print(mae)
```

```
[ 3155.84124773  8127.84878344 -2236.14368085 -1167.12484158
 -6691.11730587  3444.90906911  6007.91283697 -1587.07962732
  8412.92037268 -3568.06078805   570.94674766 -7798.04948449
 -6635.04948449 -7456.04571663 -7206.03064522 -4159.0155738
 -7958.00803809  7210.99949762  -183.97789525 11448.0258726
  1686.05601544  5386.067319     855.09746184 10530.1087654
  1424.12760467 -5259.86109176  1402.15774751 -3876.83848464
  -735.81210966 -3144.80457395]
938128551.668429
31270951.722280968
5592.043608760662
4644.2012894435375
```

In [17]:
```
from sklearn.metrics import mean_absolute_error,mean_squared_error
```

In [19]:
```
print(mean_absolute_error(y,yhat))
print(mean_squared_error(y,yhat))
```

```
4644.2012894435375
31270951.722280968
```

In [ ]: