# data

February 11, 2023

```python
[7]: import numpy as np
     import pandas as pd
     import matplotlib.pyplot as plt
```

```python
[9]: dataset=pd.read_csv("dataframe_.csv")
     dataset.head()
```

```
[9]:          input      output
     0 -122.740667 -130.572085
     1 -121.531419 -129.938929
     2 -134.917019 -130.141832
     3 -120.605951 -125.760932
     4 -129.894781 -112.785214
```

```python
[11]: dataset.shape
```

```
[11]: (1697, 2)
```

```python
[17]: X=dataset.iloc[:,:-1].values
      y=dataset.iloc[:,1].values
```

```python
[18]: X
```

```
[18]: array([[-122.7406674 ],
             [-121.5314194 ],
             [-134.917019  ],
             ...,
             [  31.6333313 ],
             [  29.09145773],
             [  17.14529595]])
```

```python
[19]: from sklearn.model_selection import train_test_split
      X_train,X_test,y_train,y_test=train_test_split(X,y, test_size=0.3,␣
       ↪random_state=0)
```

```python
[20]: X_train,X_test,y_train,y_test
```

```
[20]: (array([[-124.3666687 ],
              [  70.45376004],
              [ 124.6333313 ],
              ...,
              [  -4.68829411],
              [  69.6333313 ],
              [ -27.8216707 ]]),
       array([[ 7.52492312e+01],
              [-1.15563739e+02],
              [-7.65552412e+01],
              [-1.15262637e+02],
              [ 2.36333313e+01],
              [ 2.75554237e+01],
              [-9.77868123e+01],
              [ 9.06333313e+01],
              [ 3.61312457e+01],
              [-1.64342293e+01],
              [-5.33666687e+01],
              [ 6.49907333e+01],
              [-1.21060221e+02],
              [ 7.63158382e+01],
              [ 1.15862302e+02],
              [ 3.86333313e+01],
              [ 6.55950744e+01],
              [ 4.69991975e+01],
              [-1.29894781e+02],
              [-4.37398056e+01],
              [-1.33818175e+02],
              [ 1.12165777e+02],
              [ 1.21060076e+02],
              [ 1.05482733e+02],
              [ 1.32974904e+02],
              [ 8.63333130e+00],
              [ 1.12659878e+02],
              [-8.42835295e+01],
              [-1.57406174e+01],
              [ 9.23145312e+01],
              [-1.53666687e+01],
              [-1.08366669e+02],
              [ 8.17706617e+00],
              [ 3.53106282e+01],
              [-1.19366669e+02],
              [ 5.89160873e+01],
              [ 1.02633331e+02],
              [ 8.59941158e+00],
              [ 1.07992035e+02],
              [ 1.08774393e+00],
```

```
[-6.33666687e+01],
[ 3.99188732e+01],
[-1.05051321e+01],
[ 1.36244542e+01],
[ 9.36333313e+01],
[ 1.92874697e+01],
[-1.37427321e+00],
[-1.90066356e+01],
[ 5.86333313e+01],
[-1.33058490e+02],
[-4.52763981e+01],
[ 5.57504025e+01],
[-8.70241036e+01],
[ 3.67191403e+01],
[ 7.60161273e+01],
[ 3.83340716e+01],
[-4.05521749e+01],
[ 8.82561616e+01],
[-2.03666687e+01],
[ 1.16633331e+02],
[ 8.19608130e+01],
[-1.12866909e+02],
[ 3.09073860e+01],
[ 1.02813093e+02],
[-3.40046026e+01],
[-1.13278338e+02],
[ 3.32881347e+01],
[ 1.05550726e+02],
[-1.04961009e+02],
[ 1.20633331e+02],
[-9.26492541e+01],
[ 9.88220903e+01],
[ 2.16333313e+01],
[-4.24402861e+01],
[-1.08499640e+02],
[ 1.17596660e+02],
[-2.43666687e+01],
[ 8.96333313e+01],
[-2.53749258e+01],
[ 5.76333313e+01],
[-8.93666687e+01],
[ 1.00081750e+01],
[-4.17532957e+01],
[ 1.58336329e+01],
[-1.33130296e+02],
[ 6.22869003e+01],
[ 8.38572370e+01],
```

```
[-1.70239326e+01],
[-4.13666687e+01],
[ 7.36333313e+01],
[-2.12891662e+01],
[ 1.29541672e+02],
[ 3.58169221e+01],
[ 2.98812668e+01],
[-5.28257306e+01],
[ 1.12806778e+02],
[ 5.51718735e+01],
[ 3.11172936e+01],
[ 7.54892304e+01],
[-2.97989257e+01],
[-1.09278368e+02],
[-3.77405673e+01],
[ 3.48438990e+01],
[ 8.56568848e+01],
[ 1.05270306e+02],
[ 1.12589050e+02],
[ 1.14714119e+01],
[-1.10265677e+02],
[-1.25366669e+02],
[-1.16332839e+02],
[-5.93826143e+01],
[ 6.01439940e+01],
[ 6.56333313e+01],
[ 2.50575136e+01],
[ 6.56333313e+01],
[ 9.46333313e+01],
[-1.48230951e+01],
[-1.16819920e+02],
[-1.00558046e+02],
[ 1.03616817e+02],
[ 1.66333313e+01],
[ 1.20633331e+02],
[-1.25743622e+02],
[-3.25997528e+01],
[ 1.15253900e+02],
[ 6.64690865e+01],
[ 7.66333313e+01],
[-1.34366669e+02],
[-1.09366669e+02],
[-5.83760647e+01],
[-1.10265677e+02],
[-1.01997441e+02],
[ 4.37878102e+01],
[-5.89145850e+01],
```

```
[ 8.26333313e+01],
[ 4.33879895e+01],
[ 7.00294931e+01],
[-1.12018496e+02],
[ 1.08178146e+02],
[-1.48230951e+01],
[ 2.36333313e+01],
[ 4.26333313e+01],
[-1.19366669e+02],
[-4.80775050e+01],
[ 1.05343051e+02],
[ 1.00633331e+02],
[-1.33366669e+02],
[ 5.22473021e+01],
[-1.11253677e+02],
[-4.71887391e+01],
[ 6.86333313e+01],
[-1.10366669e+02],
[ 4.61475039e+01],
[ 3.98486544e+01],
[ 8.26333313e+01],
[ 9.27301527e+01],
[-1.24237735e+02],
[-1.19524112e+02],
[ 1.07173172e+02],
[ 4.10962596e+01],
[ 3.96333313e+01],
[-4.83102987e+01],
[-2.53666687e+01],
[ 9.26333313e+01],
[-1.17685497e+02],
[-8.53666687e+01],
[ 8.55597633e+01],
[ 1.08633331e+02],
[-2.74902037e+01],
[ 3.30941443e+00],
[-1.31905360e+02],
[-3.25997528e+01],
[-1.03366669e+02],
[-8.24733063e+01],
[-3.53666687e+01],
[-6.88784393e+01],
[-9.33666687e+01],
[-5.13666687e+01],
[-1.36666870e+00],
[-1.64874010e+01],
[-3.91311573e+01],
```

```
[ 4.08095959e+00],
[ 1.96333313e+01],
[-1.27366669e+02],
[ 1.24633331e+02],
[ 1.05705891e+02],
[-1.04681987e+02],
[ 4.28119291e+00],
[ 1.02633331e+02],
[-1.32675393e+01],
[-1.06199190e+02],
[ 2.90914577e+01],
[ 3.09073860e+01],
[-1.77626886e+01],
[-1.31366669e+02],
[-5.10885194e+01],
[ 4.63333130e+00],
[-2.87859460e+01],
[-2.27138500e+01],
[-6.09840419e+01],
[ 1.17756802e+02],
[ 6.63333130e+00],
[-1.31883286e+02],
[ 1.16333313e+01],
[ 1.46333313e+01],
[ 5.11400795e+01],
[-5.12736172e+00],
[ 1.12589050e+02],
[ 6.06333313e+01],
[ 7.44129805e+01],
[-4.12353374e+01],
[-8.13666687e+01],
[ 6.46156127e+01],
[ 9.95308467e+01],
[ 1.86333313e+01],
[ 5.46333313e+01],
[ 4.09508298e+01],
[ 1.16329184e+01],
[ 9.82092650e+01],
[-3.82574481e+01],
[ 1.12633331e+02],
[-2.88094912e+01],
[ 1.43261801e+01],
[ 3.62972897e+00],
[ 8.26333313e+01],
[-1.25366669e+02],
[-1.14366669e+02],
[-6.88784393e+01],
```

```
[-5.16089423e+01],
[ 1.14633331e+02],
[ 4.08095959e+00],
[ 7.86333313e+01],
[ 1.06924515e+02],
[ 1.09542575e+02],
[-7.57315404e+00],
[ 1.22633331e+02],
[-1.16197531e+02],
[-1.29894781e+02],
[-1.23071738e+01],
[-1.30255318e+02],
[-5.89145850e+01],
[ 3.32061394e+01],
[ 2.25691244e+01],
[ 1.00026867e+01],
[ 4.92577569e+01],
[-1.20366669e+02],
[ 5.66333313e+01],
[ 9.28796270e+01],
[ 3.36333313e+01],
[ 1.15000547e+02],
[ 6.65695328e+01],
[ 1.11235509e+02],
[ 1.08633331e+02],
[-1.34962839e+02],
[-1.75724879e+01],
[ 2.65209973e+00],
[ 6.32498362e+01],
[ 4.46333313e+01],
[-1.20366669e+02],
[ 6.43809854e+00],
[ 1.13633331e+02],
[-3.34819131e+01],
[ 6.96333313e+01],
[ 4.56496248e+01],
[ 7.06162199e+01],
[-1.12467825e+02],
[-7.36666870e+00],
[ 3.63333130e+00],
[ 3.63333130e+00],
[ 1.17633331e+02],
[ 1.03078927e+02],
[ 7.76333313e+01],
[-9.32466879e+01],
[ 7.64404870e+01],
[-6.99521243e+00],
```

```
[-4.05521749e+01],
[-5.03666687e+01],
[-3.30041353e+01],
[-5.10885194e+01],
[-1.31021373e+02],
[-3.63666687e+01],
[ 1.02455718e+02],
[-8.24733063e+01],
[ 1.28831645e+02],
[ 6.25811192e+01],
[-1.23003227e+02],
[ 2.44290562e+01],
[-9.26492541e+01],
[ 2.16333313e+01],
[ 7.85175088e+01],
[-1.25382159e+02],
[-1.03293097e+02],
[-3.60459537e+01],
[ 9.05767223e+01],
[ 5.26333313e+01],
[-5.22432558e+00],
[ 8.37704415e+01],
[-1.53666687e+01],
[ 1.12088070e+02],
[-4.87667073e+01],
[ 1.11916978e+02],
[ 2.95373040e+01],
[-1.29565624e+02],
[-8.29918553e+01],
[-2.56631225e+00],
[ 2.58682760e+01],
[ 9.66333313e+01],
[ 1.02633331e+02],
[ 9.56384899e+01],
[ 9.70822018e+01],
[ 8.94452499e+01],
[-1.27366669e+02],
[ 9.76333313e+01],
[-4.38002643e+01],
[ 7.20975191e+01],
[ 3.32105144e+01],
[ 3.62746198e+00],
[ 8.94452499e+01],
[-7.85326987e+01],
[-2.95515719e+01],
[-1.13313112e+02],
[ 1.12633331e+02],
```

```
[-6.09840419e+01],
[-3.36666870e+00],
[-1.14508654e+02],
[ 3.76925766e+01],
[ 9.50898545e+01],
[ 3.66257103e+01],
[ 6.10534997e+00],
[ 1.01270735e+02],
[-4.33666687e+01],
[ 1.46333313e+01],
[ 2.76033263e+01],
[ 3.05564537e+01],
[ 1.22321018e+02],
[ 9.35457001e+01],
[ 7.54103019e+01],
[-2.53666687e+01],
[ 1.13492410e+01],
[ 7.74603234e+01],
[-1.22889442e+02],
[ 9.62685923e+00],
[-6.83758247e+01],
[-9.43091377e+01],
[-1.14410526e+02],
[ 4.39454577e+01],
[-9.66983513e+01],
[ 1.96333313e+01],
[ 3.67847733e+01],
[-1.21204666e+02],
[-1.11044048e+02],
[ 1.22321018e+02],
[ 1.00467464e+02],
[ 8.61536580e+01],
[-1.20605951e+02],
[-1.17609424e+02],
[ 1.71452960e+01],
[-1.13967604e+02],
[-1.15366669e+02],
[ 5.65905435e+01],
[ 8.86333313e+01],
[-1.22366669e+02],
[ 1.12633331e+02],
[-4.94489612e+00],
[ 5.72067476e+01],
[ 2.50575136e+01],
[ 6.80294917e+01],
[-2.99591628e+01],
[ 2.63333130e+00],
```

```
[ 8.46333313e+01],
[ 6.66333313e+01],
[ 8.02141952e+01],
[ 8.55682125e+01],
[ 5.92487037e+01],
[ 6.36333313e+01],
[-1.34917019e+02],
[ 8.31557198e+01],
[ 1.06633331e+02],
[-2.40576175e+01],
[ 6.99977826e+01],
[ 8.98556236e+01],
[-6.00136314e+01],
[ 1.72908434e+01],
[ 6.91575210e+00],
[ 1.06496484e-01],
[ 1.06789109e+02],
[-4.36732556e+01],
[-1.21060221e+02],
[ 3.62746198e+00],
[ 1.07931883e+02],
[ 1.12624910e+02],
[-4.59918132e+00],
[ 8.73250276e+01],
[-7.63552445e+01],
[-2.33666687e+01],
[-5.96906077e+01],
[-1.10676573e+02],
[ 4.67343314e+01],
[-8.46092297e+00],
[ 1.01270735e+02],
[-1.03666687e+01],
[-1.21531419e+02],
[ 1.66333313e+01],
[-9.70815194e+01],
[ 7.10188833e+01],
[-7.53666687e+01],
[-1.11902602e+02],
[-8.26171418e-01],
[-1.07366669e+02],
[-6.60088865e+01],
[-8.54145569e+01],
[ 7.22555296e+00],
[-2.76921886e+01],
[ 1.72908434e+01],
[ 1.08081907e+02],
[ 1.86333313e+01],
```

```
[            nan],
[-8.26171418e-01],
[-1.09054583e+02],
[ 3.08721041e+01],
[-1.11515368e+02],
[-1.10046322e+02],
[ 1.68607949e+01],
[ 5.77689002e+00],
[-1.17627648e+01],
[-6.93247100e+01],
[ 8.06333313e+01],
[ 1.22633331e+02],
[-1.08604445e+02],
[ 1.17594575e+02],
[-1.00330221e+01],
[ 9.21212486e+01],
[ 2.96692006e+01],
[ 4.58998724e+01],
[-1.13077474e+02],
[ 9.82092228e+01],
[ 1.46157784e+01],
[ 8.06333313e+01],
[ 3.63406191e+01],
[ 6.63333130e+00],
[ 1.00633331e+02],
[-8.02639935e+01],
[ 3.74918334e+01],
[-1.90066356e+01],
[-1.23047627e+02],
[-1.20227791e+02],
[ 5.16333313e+01],
[ 7.83229866e+01],
[ 3.86333313e+01],
[ 9.76333313e+01],
[-8.84900956e+01],
[-1.30366669e+02],
[ 6.68862290e+01],
[ 3.66333313e+01],
[ 9.08222729e+01],
[-1.57240893e+01],
[ 5.06081020e+01],
[ 7.10364190e+01],
[-1.33130296e+02],
[ 2.63333130e+00],
[-1.23371849e+02],
[ 3.33514051e+01],
[ 5.44348613e+01],
```

```
       [-1.13228225e+02],
       [-1.24086608e+01],
       [ 9.04723427e+01],
       [ 7.55356803e+01],
       [ 4.76333313e+01],
       [-1.17358953e+02],
       [ 5.01059805e+01],
       [ 1.33024034e+02],
       [ 4.88754613e+01],
       [ 1.08990831e+02],
       [-8.38056294e+01],
       [ 2.06333313e+01],
       [ 6.10534997e+00],
       [ 3.52823622e+01],
       [ 9.38643289e+01],
       [ 6.22869003e+01],
       [ 7.54519424e+01],
       [-2.18956157e+01],
       [ 6.69187230e+00],
       [-4.83666687e+01],
       [ 5.91664276e+01],
       [ 7.22555296e+00],
       [-1.21653543e+02],
       [-1.17077690e+02],
       [ 5.66333313e+01],
       [ 3.76925766e+01],
       [-1.34312702e+02],
       [ 2.36333313e+01],
       [-1.20366669e+02],
       [-1.25366669e+02],
       [-1.15366669e+02],
       [-4.73729330e+01],
       [-9.06411856e-01],
       [-6.33666687e+01],
       [ 5.53914442e+01],
       [-2.96461739e+01],
       [-2.62070178e+01],
       [-9.36666870e+00],
       [ 7.20417171e+01],
       [ 5.77689002e+00],
       [-1.23071738e+01],
       [-1.04906529e+02],
       [-1.01997441e+02],
       [-4.98523931e+01],
       [-1.21687849e+02],
       [-1.12477425e+02],
       [-1.17880300e+01]]),
```

```
array([121.        , -77.62374105, 129.        ,  ..., -88.86853058,
       -39.        , -86.90334765]),
array([ 3.72742683e+01, -1.26267621e+02, -2.39299788e+01, -8.00448012e+01,
       -9.30000000e+01, -8.88963884e+01, -4.62697918e+01,  4.20000000e+01,
       -4.96618493e+01, -6.29567427e+01, -3.60000000e+01, -5.80595340e+01,
       -7.66534353e+01, -5.03768500e+01,  1.18564590e+02, -5.60000000e+01,
       -5.08815379e+00, -7.31986313e+01, -1.12785214e+02, -2.25200911e+01,
       -1.27063611e+02,  3.02054282e+01,  1.26750385e+02,  5.25572038e+01,
        1.20264725e+02, -7.80000000e+01,  4.36171462e+01, -2.95311830e+01,
       -6.01308028e+01,  5.15653190e+01, -7.10000000e+01, -5.10000000e+01,
       -9.04678524e+01, -9.24789518e+01, -8.80000000e+01,  5.15080161e+00,
        5.50000000e+01, -7.92937454e+01,  1.02050422e+02, -9.86474058e+01,
       -3.30000000e+01, -7.52971265e+01, -7.01373829e+01, -8.52800492e+01,
        3.90000000e+01, -1.14455671e+02, -1.04595355e+02, -7.86898088e+01,
       -4.40000000e+01, -1.26646320e+02, -3.66227569e+01, -4.68895506e+01,
       -2.83103509e+01, -7.28337584e+01, -1.75004830e+01, -1.02626506e+02,
       -3.00251254e+01, -1.79108361e+01, -6.80000000e+01,  1.15000000e+02,
        4.07905264e+00, -4.11072310e+01, -1.12488908e+02,  5.98168117e+01,
       -5.73187213e+01, -9.94390761e+01, -7.96838680e+01,  1.15367603e+02,
       -6.52353814e+01,  1.26000000e+02, -4.31769635e+01,  5.93632516e+01,
       -9.30000000e+01, -5.80026060e+01, -9.62162808e+01,  7.39422571e+01,
       -6.30000000e+01,  1.80000000e+01, -1.09186569e+02, -5.50000000e+01,
       -4.40000000e+01, -1.07497870e+02, -3.92862174e+01, -7.41683890e+01,
       -7.24275346e+01, -3.44050124e+01,  2.47859337e+01, -9.93714346e+01,
       -4.50000000e+01, -7.00000000e+00, -8.64522680e+01,  1.28589413e+02,
       -9.25801780e+01, -8.17607110e+01, -1.79819368e+01,  1.19593141e+02,
       -4.31270034e+01, -7.82740213e+01, -6.98179798e+01, -4.82980819e+01,
       -9.94023837e+01, -4.61707156e+01, -8.29430423e+01, -2.76028765e+01,
        7.47306581e+01,  9.29278185e+01, -8.07611699e+01, -1.04731506e+02,
       -1.06000000e+02, -5.71508993e+01, -3.59171133e+01, -2.99144095e+01,
       -4.10000000e+01, -6.01480666e+01, -4.70000000e+01,  5.10000000e+01,
       -6.84082342e+01, -7.68629180e+01, -5.11761675e+01,  1.09965262e+02,
       -9.80000000e+01,  1.27000000e+02, -1.07499324e+02, -6.91041255e+01,
        9.75539201e+01, -6.15172467e+00, -1.10000000e+01, -1.16000000e+02,
       -5.50000000e+01, -4.48987593e+01, -1.04731506e+02, -8.38759736e+01,
       -4.54863081e+01, -5.37149492e+01,  2.10000000e+01, -7.60223195e+01,
       -1.81170292e+01,  1.21096397e+02,  1.01048870e+02, -6.84082342e+01,
       -9.30000000e+01, -6.10000000e+01, -8.20000000e+01, -4.59518156e+01,
        3.83076237e+01,  5.10000000e+01, -1.13000000e+02, -5.19257920e+01,
       -8.50907114e+01, -6.75691541e+01, -4.10000000e+01, -5.60000000e+01,
       -4.73307437e+01, -3.09179341e+01,  1.30000000e+01, -1.22036165e+01,
        1.24357397e+02, -9.44198555e+01,  1.26899744e+02, -4.86942959e+01,
       -6.60000000e+01, -3.39216843e+01, -6.00000000e+01,  2.50000000e+01,
       -7.29783075e+01, -4.10000000e+01,  1.63917811e+01,  7.10000000e+01,
       -6.08253441e+01, -8.51636009e+01, -9.21855752e+01, -6.91041255e+01,
       -5.20000000e+01, -3.08483052e+01, -4.50000000e+01, -4.25481276e+01,
       -4.70000000e+01, -3.70000000e+01, -9.50000000e+01, -7.42834750e+01,
```

-1.67157908e+01, -8.07490641e+01, -9.50000000e+01, -1.01000000e+02,
 1.29000000e+02,  1.31841595e+02, -7.69771902e+01, -7.91311365e+01,
 6.70000000e+01, -7.64784677e+01, -6.98960413e+01, -1.04943052e+02,
-1.12488908e+02, -4.00185065e+01, -1.23000000e+02, -4.92863158e+01,
-7.70000000e+01, -4.34310512e+01, -7.90903745e+01, -2.71772272e+01,
 1.27574391e+02, -9.50000000e+01,  1.21266110e+02, -9.50000000e+01,
-1.00000000e+02, -4.41778380e+01, -9.34559882e+01,  9.29278185e+01,
-4.80000000e+01,  3.82494196e+01, -3.56775948e+01, -3.80000000e+01,
-4.95856529e+01,  4.02972625e+01, -1.00000000e+02, -5.90000000e+01,
-7.42226161e+01, -7.27087904e+01,  1.11476958e+02, -1.21322208e+01,
 9.50000000e+01, -6.75360957e+01, -1.00011198e+02, -8.45164463e+01,
 1.30000000e+01,  1.31000000e+02, -6.70000000e+01, -4.25481276e+01,
-3.31868630e+01,  9.40000000e+01, -8.07490641e+01, -5.00000000e+00,
 9.25370788e+01,  7.45953256e+01, -1.02188449e+02,  1.19000000e+02,
 1.26190248e+02, -1.12785214e+02, -6.73062560e+01, -1.18692296e+02,
-5.37149492e+01, -6.87472562e+01, -7.79510538e+01, -9.04014146e+01,
-8.08327962e+01, -8.10000000e+01, -3.50000000e+01,  8.79250870e+01,
-7.20000000e+01,  6.54961976e+01, -5.38093769e+01,  9.85833145e+01,
 8.90000000e+01, -8.15400373e+01, -3.49739807e+01, -7.89723750e+01,
-4.43922069e+01, -5.70000000e+01, -8.10000000e+01, -8.67141920e+01,
 1.09000000e+02, -3.63673991e+01, -1.80000000e+01, -3.76561594e+01,
-2.03266802e+01,  1.31374738e+02, -9.00000000e+01, -9.50000000e+01,
-9.50000000e+01,  1.07000000e+02,  4.15179555e+01, -1.00000000e+00,
-4.40377292e+01, -3.04001760e+01, -8.18787294e+01, -3.00251254e+01,
-3.90000000e+01, -6.66962211e+01, -4.92863158e+01, -1.02422777e+02,
-4.90000000e+01,  7.22411938e+01, -3.08483052e+01,  8.47935267e+01,
-1.36188570e+01, -8.11825838e+01, -1.12988914e+02, -4.31769635e+01,
-9.30000000e+01, -1.93870527e+00, -8.18234367e+01, -9.96668026e+01,
-6.73690619e+01,  1.80383364e+01, -5.10000000e+01, -6.23060291e+01,
-1.15681505e+01, -7.20000000e+01,  8.44660855e+01, -4.35476848e+01,
 2.69661842e+01, -8.27969343e+01, -1.22630005e+02, -3.66384172e+01,
-9.08563097e+01, -7.25916369e+01,  4.10000000e+01,  5.50000000e+01,
-1.14255539e+01,  1.58573514e+01, -1.16834019e-01, -1.01000000e+02,
 4.80000000e+01, -6.37955944e+01,  5.30992911e+00, -1.11079269e+02,
-8.85205097e+01, -1.16834019e-01, -2.40582332e+01, -7.24523027e+01,
-6.72044291e+01,  1.00000000e+02, -2.71772272e+01, -7.50000000e+01,
 1.32424802e+02, -1.10025656e+02, -1.75577711e+01, -4.07594902e+01,
-7.51190737e+01,  2.79001619e+01, -4.40000000e+01, -9.90000000e+01,
-8.34858421e+01, -9.77288278e+01,  1.02401532e+02,  2.07604153e+01,
-4.16254605e+01, -6.00000000e+01, -1.14403385e+02,  2.43560427e+01,
-7.09920661e+01, -1.10907090e+02, -1.83125176e+01, -3.96382455e+01,
-8.68140431e+01, -4.39309458e+01, -5.40991185e+01, -9.10000000e+01,
-3.14574206e+01, -4.70603771e+01, -7.33530660e+01,  1.02401532e+02,
 2.34197415e+01, -2.83060014e+01, -1.25760932e+02,  1.28249695e+02,
-1.01726894e+02, -6.29917713e+01, -6.70000000e+01, -7.29454379e+01,
 2.90000000e+01, -8.60000000e+01,  1.02000000e+02, -8.71548518e+01,
-2.29302948e+01, -6.01480666e+01, -6.71070717e+01, -8.84903180e+01,

```
       -7.60000000e+01,  2.10000000e+01, -2.30000000e+01,  5.96416377e+00,
       -1.02386236e+01, -7.69319349e+01, -3.60000000e+01, -1.30141832e+02,
        2.24075790e+01,  6.10000000e+01, -7.35194060e+01, -8.16233679e-01,
        6.76295519e+01, -5.22548135e+01, -8.67761819e+01, -7.91560253e+01,
       -7.61285760e+01,  1.26537308e+02, -5.66169253e+01, -7.66534353e+01,
       -8.85205097e+01,  2.28627099e+01,  2.38210565e+01, -7.87171020e+01,
        3.25806579e+01, -1.98115453e+01, -6.60000000e+01, -4.36637804e+01,
       -1.03561797e+02, -6.11374927e+01, -5.87411874e+01,  2.79001619e+01,
       -8.70000000e+01, -1.29938929e+02, -9.50000000e+01, -6.79489333e+01,
       -2.94155415e+01, -3.20000000e+01, -7.37940120e+01, -6.81813271e+01,
       -4.80000000e+01, -4.99663708e+01, -4.05376529e+01, -9.73761415e+01,
       -6.52293495e+01, -8.67761819e+01,  3.94293071e+01, -9.60000000e+01,
                  nan, -6.81813271e+01, -9.25172648e+01, -6.10386474e+01,
        1.28170885e+02, -4.21776375e+01, -1.06952475e+02, -8.28737021e+01,
       -1.04851503e+02, -4.46311089e+01,  6.00000000e+00,  1.19000000e+02,
       -5.35821962e+01,  9.08875479e+01, -5.98237842e+01,  5.03178887e+01,
       -8.17675733e+01, -3.44620394e+01, -4.02538225e+01,  1.68266058e+01,
       -6.10047201e+01, -3.00000000e+00, -7.36007401e+01, -7.80000000e+01,
        6.10000000e+01, -4.10034881e+01, -7.48635473e+01, -7.86898088e+01,
       -1.05711144e+02, -6.25289354e+01, -4.00000000e+01, -9.99646719e+00,
       -5.60000000e+01,  4.40000000e+01, -5.65366394e+01, -1.20000000e+02,
        1.28788551e+01, -6.90000000e+01,  5.69060572e+01, -7.52439943e+01,
       -4.27742419e+01,  7.10777175e+00, -7.24275346e+01, -9.50000000e+01,
        1.23189683e+02, -1.16588639e+02, -3.17655238e+01, -6.54575455e+01,
       -5.28436214e+01, -8.60042969e+00, -2.29724253e+01, -6.60000000e+01,
       -9.64695851e+01, -8.59000140e+01,  1.32055270e+02, -6.47479912e+01,
        8.39300524e+01, -4.03094473e+01, -7.80000000e+01, -7.51190737e+01,
       -5.88674071e+01,  7.76268927e+00, -3.44050124e+01,  6.84318147e+01,
       -6.87258174e+01, -8.58921440e+01, -4.10000000e+01, -2.68325586e+01,
       -9.73761415e+01, -1.28885030e+02, -3.85897290e+01, -3.50000000e+01,
       -1.10025656e+02, -1.09974165e+02, -9.10000000e+01, -9.00000000e+01,
        1.31000000e+02, -7.00000000e+01, -5.05651113e+01, -8.70496883e+01,
       -3.30000000e+01, -4.46049424e+01, -7.68266333e+01, -6.79827695e+01,
       -7.50000000e+01,  1.19472850e+01, -8.28737021e+01, -6.73062560e+01,
       -9.53793126e+01, -8.38759736e+01, -3.33320673e+01,  1.27444778e+02,
       -1.20613037e+02, -8.28596582e+01]))
```

[34]:
```python
from sklearn.linear_model import LinearRegression
#  make a function for regression as reg
reg= LinearRegression()

reg.fit(X_train,y_train)
```

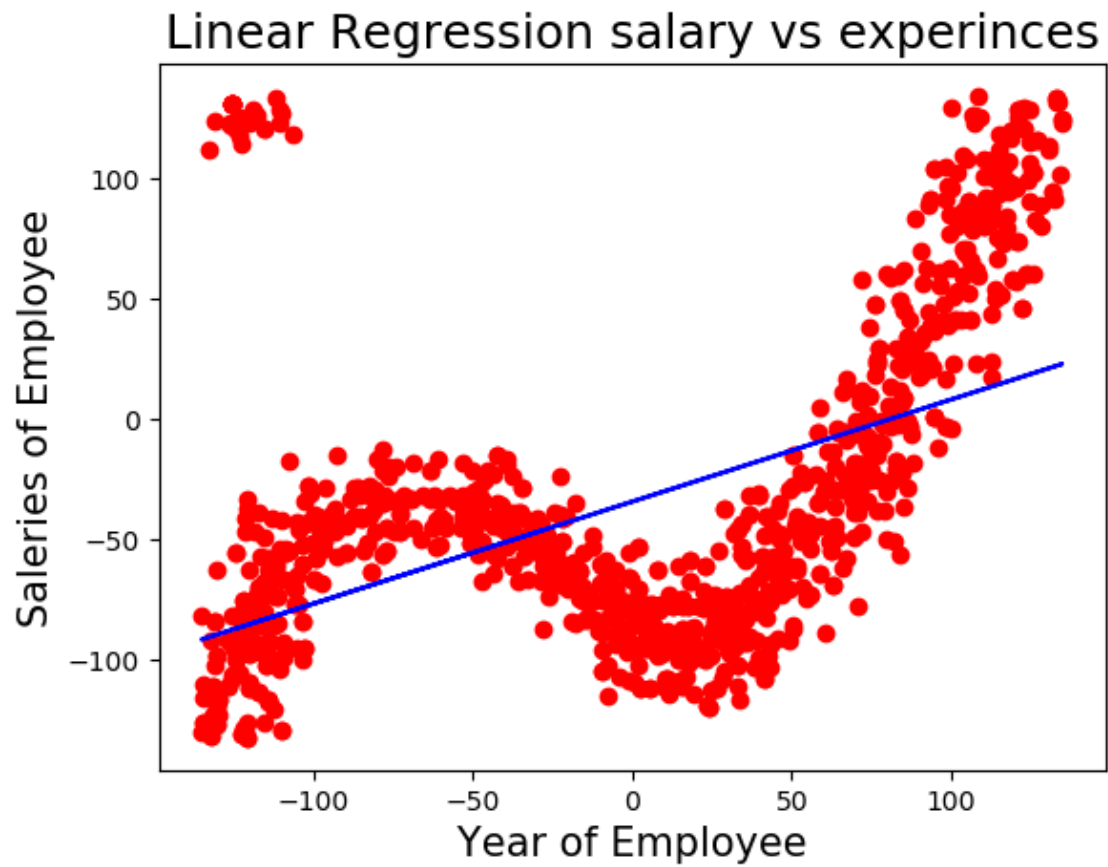[34]: LinearRegression(copy_X=True, fit_intercept=True, n_jobs=None, normalize=False)

[35]:
```python
plt.scatter(X_train, y_train, color='red', )
plt.plot(X_train,reg.predict(X_train), color='blue')
```

```
plt.title(" ", size=18)
plt.xlabel(" ",size=15)
plt.ylabel(" ", size=15)
plt.show()
```

## Linear Regression salary vs experinces



[ ]: