

```
import pandas as pd
import seaborn as sns
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import MinMaxScaler
from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Dense,Dropout

from google.colab import auth
import gspread
from google.auth import default
import pandas as pd
auth.authenticate_user()
creds, _ = default()
gc = gspread.authorize(creds)
worksheet = gc.open('data').sheet1
rows = worksheet.get_all_values()
df = pd.DataFrame(rows[1:], columns=rows[0])

df = df.astype({'input':'float'})
df = df.astype({'output':'float'})
df
x=df[['input']].values
y=df[['output']].values

x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.33,random_state=33)
scaler=MinMaxScaler()
scaler.fit(x_train)
x_train1=scaler.transform(x_train)

ai_brain = Sequential([
    Dense(6,activation = 'relu'),
    Dense(6,activation = 'relu'),
    Dense(1)
])
ai_brain.compile(optimizer = 'rmsprop', loss = 'mse')
ai_brain.fit(x_train1,y_train,epochs = 2000)
```



```

1/1 [=====] - 0s 9ms/step - loss: 212.6638
Epoch 1668/2000
1/1 [=====] - 0s 13ms/step - loss: 212.2987
Epoch 1669/2000
1/1 [=====] - 0s 7ms/step - loss: 211.9350
Epoch 1670/2000
1/1 [=====] - 0s 8ms/step - loss: 211.5728
Epoch 1671/2000
1/1 [=====] - 0s 9ms/step - loss: 211.2121
Epoch 1672/2000
1/1 [=====] - 0s 10ms/step - loss: 210.8528
Epoch 1673/2000
1/1 [=====] - 0s 10ms/step - loss: 210.4949
Epoch 1674/2000
1/1 [=====] - 0s 10ms/step - loss: 210.1385
Epoch 1675/2000
1/1 [=====] - 0s 8ms/step - loss: 209.7835
Epoch 1676/2000
1/1 [=====] - 0s 13ms/step - loss: 209.4299
Epoch 1677/2000
1/1 [=====] - 0s 6ms/step - loss: 209.0778
Epoch 1678/2000
1/1 [=====] - 0s 12ms/step - loss: 208.7271
Epoch 1679/2000
1/1 [=====] - 0s 7ms/step - loss: 208.3778
Epoch 1680/2000
1/1 [=====] - 0s 11ms/step - loss: 208.0299
Epoch 1681/2000
1/1 [=====] - 0s 10ms/step - loss: 207.6835
Epoch 1682/2000
1/1 [=====] - 0s 6ms/step - loss: 207.3384
Epoch 1683/2000
1/1 [=====] - 0s 15ms/step - loss: 206.9947
Epoch 1684/2000
1/1 [=====] - 0s 11ms/step - loss: 206.6524
Epoch 1685/2000
1/1 [=====] - 0s 7ms/step - loss: 206.3116
Epoch 1686/2000
1/1 [=====] - 0s 6ms/step - loss: 205.9720
Epoch 1687/2000
1/1 [=====] - 0s 7ms/step - loss: 205.6339
Epoch 1688/2000
1/1 [=====] - 0s 7ms/step - loss: 205.2971

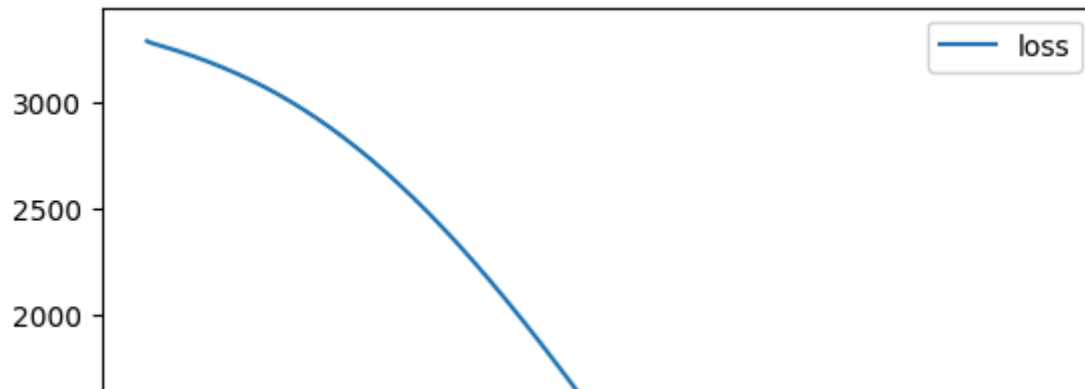
```

```

loss_df = pd.DataFrame(ai_brain.history.history)
loss_df.plot()

```

<Axes: >



```
x_test1 = scaler.transform(x_test)
ai_brain.evaluate(x_test1,y_test)
```

```
1/1 [=====] - 0s 127ms/step - loss: 139.1820
139.18197631835938
```

500 J

```
x_n1 = [[5]]
x_n1_1 = scaler.transform(x_n1)
ai_brain.predict(x_n1_1)
```

```
1/1 [=====] - 0s 82ms/step
array([[38.702297]], dtype=float32)
```