

1. Develop Linear Regression Model to predict the marks based on the attendance using Linear Regression

Input: X—Attendance

Target: Y---Marks

Note: Split your Data set into 70 % training and 30 %test

```
import pandas as pd

data=pd.read_csv('E:/attendace.csv')

print(data)

print(data.head(5))#First 5 rows displayed

print(data.tail(5))#last 5 rows displayed

data.describe()

#Store Attendance from data(dataframe) in to X in 2D for LinearRegression

X=data[['Attendace']] #input

print(X.shape)

#Store Marks from data(dataframe) in to y in 1D for LinearRegression

y=data['marks'] #output

print(y.shape)

#Split the training set and test data set from the original X and y using train_test_split()

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)

#Bulid the Linear Regression Model

from sklearn.linear_model import LinearRegression

#Call the LinearRegression() to create instance of model

model=LinearRegression()

model.fit(X_train,y_train)
```

```
#predict the instance
```

```
y_pred=model.predict(X_test)
```

```
from sklearn.metrics import r2_score,mean_squared_error
```

```
print("R2 score fit-goodness of model: %.2f" %r2_score(y_test,y_pred))
```

```
print("Mean squared error: %.2f" % mean_squared_error(y_test, y_pred))
```

```
df = pd.DataFrame({'Actual': y_test, 'Predicted': y_pred})
```

```
print(df)
```

	Attendace	marks
0	67	75
1	68	76
2	69	77
3	70	78
4	71	79
5	72	80
6	73	81
7	74	82
8	75	83
9	76	84
10	77	85
11	78	86
12	79	87
13	80	88

	Attendace	marks
0	67	75
1	68	76
2	69	77
3	70	78
4	71	79

	Attendace	marks
9	76	84
10	77	85
11	78	86
12	79	87
13	80	88

```
(14, 1)
```

```
(14,)
```

```
Actual Predicted
```

2	77	77.0
10	85	85.0
7	82	82.0
8	83	83.0
4	79	79.0

R2 score fit-goodness of model: 1.00

Mean squared error: 0.00

Actual Predicted

13	88	88.0
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8	83	83.0
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2	77	77.0
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7	82	82.0
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4	79	79.0
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