

```
[1]: import numpy as np # Linear algebra
import pandas as pd # data processing, CSV file I/O (e.g. pd.read_csv)
import matplotlib.pyplot as plt
```

```
[2]: df = pd.read_csv('Admission_Predict.csv')
df.head()
```

```
[2]:
```

	Serial No.	GRE Score	TOEFL Score	University Rating	SOP	LOR	CGPA	Research	Chance of Admit
0	1	337	118	4	4.5	4.5	9.65	1	0.92
1	2	324	107	4	4.0	4.5	8.87	1	0.76
2	3	316	104	3	3.0	3.5	8.00	1	0.72
3	4	322	110	3	3.5	2.5	8.67	1	0.80
4	5	314	103	2	2.0	3.0	8.21	0	0.65

```
[3]: df.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 400 entries, 0 to 399
Data columns (total 9 columns):
#   Column                Non-Null Count  Dtype
---  -
0   Serial No.            400 non-null   int64
1   GRE Score             400 non-null   int64
2   TOEFL Score           400 non-null   int64
3   University Rating     400 non-null   int64
4   SOP                   400 non-null   float64
5   LOR                   400 non-null   float64
6   CGPA                  400 non-null   float64
7   Research              400 non-null   int64
8   Chance of Admit       400 non-null   float64
dtypes: float64(4), int64(5)
```

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[4]: df.isnull().sum()
```

```
[4]: Serial No.          0
     GRE Score          0
     TOEFL Score        0
     University Rating  0
     SOP                0
     LOR                0
     CGPA               0
     Research           0
     Chance of Admit    0
     dtype: int64
```

```
[5]: df.columns
```

```
[5]: Index(['Serial No.', 'GRE Score', 'TOEFL Score', 'University Rating', 'SOP',
         'LOR ', 'CGPA', 'Research', 'Chance of Admit '],
        dtype='object')
```

```
[6]: df.loc[df['Chance of Admit ' ] < 0.8, 'Chance of Admit ' ] = 0
     df.loc[df['Chance of Admit ' ] >= 0.8, 'Chance of Admit ' ] = 1
```

```
[7]: X = df.drop(['Chance of Admit ', 'Serial No.'],axis=1)
     y = df['Chance of Admit ']
```

```
[8]: from sklearn.model_selection import train_test_split
     X_train,X_test,Y_train,Y_test =train_test_split(X,y,test_size=0.25,random_state=123)
```

```
[9]: # importing required libraries
     from sklearn.tree import DecisionTreeClassifier
     from sklearn import metrics
```

```
[10]: # Creating Decision Tree classifier object
     clf = DecisionTreeClassifier()
     # Training Decision Tree Classifier
     clf = clf.fit(X_train, Y_train)
     #Predicting for the test data
     y_pred = clf.predict(X_test)

     print("confusion matrix: ")
     print(metrics.confusion_matrix(Y_test, y_pred))
```

```
confusion matrix:
[[62  5]
 [ 7 26]]
```

```
[11]: print("1. Accuracy Score:", metrics.accuracy_score(Y_test, y_pred))
     print("2. Precision Score:",metrics.precision_score(Y_test, y_pred))
     print("3. Recall Score:", metrics.recall_score(Y_test, y_pred))
     print("4. f1 Score:", metrics.f1_score(Y_test, y_pred))
```

```
1. Accuracy Score: 0.88
2. Precision Score: 0.8387096774193549
3. Recall Score: 0.7878787878787878
4. f1 Score: 0.8125
```