In [96]:
```
import pandas as pd
```

In [97]:
```
df=pd.read_csv('titanic.csv')
```

In [98]:
```
df
```

Out[98]:

| | PassengerId | Survived | Pclass | Sex | Age | SibSp | Parch | Fare | Embarked |
|---|---|---|---|---|---|---|---|---|---|
| **0** | 1 | 0 | 3 | Male | 22.0 | 1 | 0 | 7.2500 | 3 |
| **1** | 2 | 1 | 1 | female | 38.0 | 1 | 0 | 71.2833 | 1 |
| **2** | 3 | 1 | 3 | female | 26.0 | 0 | 0 | 7.9250 | 3 |
| **3** | 4 | 1 | 1 | female | 35.0 | 1 | 0 | 53.1000 | 3 |
| **4** | 5 | 0 | 3 | Male | 35.0 | 0 | 0 | 8.0500 | 3 |
| **...** | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| **884** | 887 | 0 | 2 | Male | 27.0 | 0 | 0 | 13.0000 | 3 |
| **885** | 888 | 1 | 1 | female | 19.0 | 0 | 0 | 30.0000 | 3 |
| **886** | 889 | 0 | 3 | female | 60.0 | 1 | 2 | 23.4500 | 3 |
| **887** | 890 | 1 | 1 | Male | 26.0 | 0 | 0 | 30.0000 | 1 |
| **888** | 891 | 0 | 3 | Male | 32.0 | 0 | 0 | 7.7500 | 2 |

889 rows × 9 columns

In [99]:
```
inputs = df.drop('Survived',axis='columns')
```

In [100…
```
target = df['Survived']
```

In [101…
```
from sklearn.preprocessing import LabelEncoder
le_Sex = LabelEncoder()
```

In [102…
```
inputs['Sex_n'] = le_Sex.fit_transform(inputs['Sex'])
```

In [103…
```
inputs
```

Out[103…

| | PassengerId | Pclass | Sex | Age | SibSp | Parch | Fare | Embarked | Sex_n |
|---|---|---|---|---|---|---|---|---|---|
| **0** | 1 | 3 | Male | 22.0 | 1 | 0 | 7.2500 | 3 | 0 |
| **1** | 2 | 1 | female | 38.0 | 1 | 0 | 71.2833 | 1 | 1 |
| **2** | 3 | 3 | female | 26.0 | 0 | 0 | 7.9250 | 3 | 1 |
| **3** | 4 | 1 | female | 35.0 | 1 | 0 | 53.1000 | 3 | 1 |
| **4** | 5 | 3 | Male | 35.0 | 0 | 0 | 8.0500 | 3 | 0 |
| **...** | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| **884** | 887 | 2 | Male | 27.0 | 0 | 0 | 13.0000 | 3 | 0 |
| **885** | 888 | 1 | female | 19.0 | 0 | 0 | 30.0000 | 3 | 1 |
| **886** | 889 | 3 | female | 60.0 | 1 | 2 | 23.4500 | 3 | 1 |
| **887** | 890 | 1 | Male | 26.0 | 0 | 0 | 30.0000 | 1 | 0 |
| **888** | 891 | 3 | Male | 32.0 | 0 | 0 | 7.7500 | 2 | 0 |

889 rows × 9 columns

In [106…
```
inputs_n = inputs.drop(['Sex', 'SibSp', 'Parch', 'PassengerId', 'Embarked'],axis='columns')
inputs_n
```

Out[106…

| | Pclass | Age | Fare | Sex_n |
|---|---|---|---|---|
| **0** | 3 | 22.0 | 7.2500 | 0 |
| **1** | 1 | 38.0 | 71.2833 | 1 |
| **2** | 3 | 26.0 | 7.9250 | 1 |
| **3** | 1 | 35.0 | 53.1000 | 1 |
| **4** | 3 | 35.0 | 8.0500 | 0 |
| **...** | ... | ... | ... | ... |
| **884** | 2 | 27.0 | 13.0000 | 0 |
| **885** | 1 | 19.0 | 30.0000 | 1 |
| **886** | 3 | 60.0 | 23.4500 | 1 |
| **887** | 1 | 26.0 | 30.0000 | 0 |
| **888** | 3 | 32.0 | 7.7500 | 0 |

889 rows × 4 columns

In [107…
```
from sklearn import tree
model = tree.DecisionTreeClassifier()
```

In [108…
```
model.fit(inputs_n,target)
```

Out[108…
```
DecisionTreeClassifier()
```

In [109…
```
model.score(inputs_n,target)
```

Out[109… 0.9797525309336333

In [110…
```
model.predict([[3,22.0,7.2500,0]])
```

```
C:\Users\Sai Sushma Iska\anaconda3\Lib\site-packages\sklearn\base.py:493: UserWarning: X does not have valid feature names, but DecisionTreeClassifier was fitted with feature names
  warnings.warn(
```

Out[110… array([0], dtype=int64)

In [111…
```
model.predict([[1,38.0,71.2833,1]])
```

```
C:\Users\Sai Sushma Iska\anaconda3\Lib\site-packages\sklearn\base.py:493: UserWarning: X does not have valid feature names, but DecisionTreeClassifier was fitted with feature names
  warnings.warn(
```

Out[111… array([1], dtype=int64)

In [ ]: