In [1]:

```
import pandas as pd
import numpy as np
```

In [2]:

```
df = pd.read_csv("datadt.csv")
```

In [3]:

```
df
```

Out[3]:

	Income	gender	Mstatus	Ages
0	High	Male	Single	<21
1	High	Male	Married	<21
2	High	Male	Single	21-35
3	Medium	Male	Single	Weak
4	Low	Female	Single	>35
5	Low	Female	Married	>35
6	Low	Female	Married	21-35
7	Medium	Male	Single	>21
8	Low	Female	Married	<21
9	Medium	Female	Single	>35
10	Medium	Female	Married	<21
11	Medium	Male	Married	21-35
12	High	Female	Single	21-35
13	Medium	Male	Married	>35

In [15]:

```
X = df.iloc[:,:-1]
```

In [16]:

```
X
```

Out[16]:

	Income	gender	Mstatus
0	High	Male	Single
1	High	Male	Married
2	High	Male	Single
3	Medium	Male	Single
4	Low	Female	Single
5	Low	Female	Married
6	Low	Female	Married
7	Medium	Male	Single
8	Low	Female	Married
9	Medium	Female	Single

	Income	gender	Mstatus
10	Medium	Female	Married
11	Medium	Male	Married
12	High	Female	Single
13	Medium	Male	Married

In [19]:

```
y = df.iloc[:,3]
```

In [20]:

```
y
```

Out[20]:

```
0       <21
1       <21
2     21-35
3      Weak
4       >35
5       >35
6     21-35
7       >21
8       <21
9       >35
10      <21
11    21-35
12    21-35
13      >35
Name: Ages, dtype: object
```

In [23]:

```
from sklearn.preprocessing import LabelEncoder
```

In [24]:

```
LabelEncoder_X = LabelEncoder()
```

In [25]:

```
X = X.apply(LabelEncoder().fit_transform)
```

In [26]:

```
X
```

Out[26]:

	Income	gender	Mstatus
0	0	1	1
1	0	1	0
2	0	1	1
3	2	1	1
4	1	0	1
5	1	0	0
6	1	0	0
7	2	1	1
8	1	0	0
9	2	0	1
10	2	0	0
11	2	1	0

	Income	gender	Mstatus
12	0	0	1
13	2	1	0

In [27]:

```
from sklearn.tree import DecisionTreeClassifier
```

In [28]:

```
regressor = DecisionTreeClassifier()
```

In [29]:

```
regressor.fit(X.iloc[:,1:4], y)
```

Out[29]:

```
DecisionTreeClassifier()
```

In [34]:

```
X_in = np.array([1,0,])
```

In [35]:

```
y_pred = regressor.predict([X_in])
```

In [46]:

```
y_pred
```

Out[46]:

```
array(['21-35'], dtype=object)
```