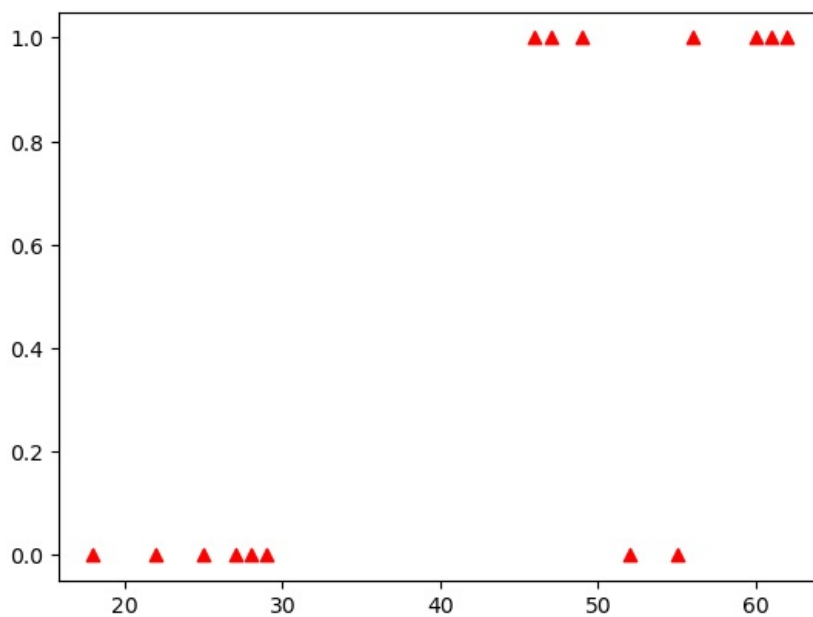


```
In [1]: import pandas as pd
df = pd.read_csv("ins.csv")
df
```

```
Out[1]:
```

	Age	Have_Insurance
0	22	0
1	25	0
2	47	1
3	52	0
4	46	1
5	56	1
6	55	0
7	60	1
8	62	1
9	61	1
10	18	0
11	28	0
12	27	0
13	29	0
14	49	1

```
In [4]: import pandas as pd
from matplotlib import pyplot as plt
%matplotlib inline
df=pd.read_csv("ins.csv")
df.head()
plt.scatter(df.Age,df.Have_Insurance,marker='^',color='red')
```



```
In [6]: from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(df[['Age']],df.Have_Insurance,train_size=0.8)
```

```
In [7]: X_test
```

```
Out[7]:
```

	Age
4	46
6	55
9	61

```
In [8]: X_train
```

```
Out[8]:
```

	Age
10	18
3	52
11	28
8	62
0	22
14	49
12	27
5	56
2	47
7	60
1	25
13	29

```
In [9]: y_train
```

```
Out[9]:
```

10	0
3	0
11	0
8	1
0	0
14	1
12	0
5	1
2	1
7	1
1	0
13	0

Name: Have_Insurance, dtype: int64

```
In [10]: from sklearn.linear_model import LogisticRegression
model = LogisticRegression()
model.fit(X_train, y_train)
```

```
Out[10]:
```

▼ LogisticRegression

LogisticRegression()

```
In [11]: model.intercept_
```

```
Out[11]: array([-9.788322])
```

```
In [12]: model.coef_
```

```
Out[12]: array([[0.21544496]])
```

```
In [15]: import math
def sigmoid(x):
    return 1 / (1 + math.exp(-x))
def prediction_function(age):
    z = 0.042 * age - 1.53 # 0.04150133 ~ 0.042 and -1.52726963 ~ -1.53
    y = sigmoid(z)
    return y
```

```
In [20]: age = int(input('Enter your age : '))
take=prediction_function(age)
if (take >= 0.7):
    print("Person will buy Insurance..")
```

```
else :  
    print("Don't take insurance")
```

Enter your age : 65
Person will buy Insurance..

In []:

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