```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.linear_model import LogisticRegression

data = pd.read_csv('Downloads/claimants.csv')
data
```

	CASENUM	ATTORNEY	CLMSEX	CLMINSUR	SEATBELT	CLMAGE	LOSS
0	5	0	0.0	1.0	0.0	50.0	34.940
1	3	1	1.0	0.0	0.0	18.0	0.891
2	66	1	0.0	1.0	0.0	5.0	0.330
3	70	0	0.0	1.0	1.0	31.0	0.037
4	96	1	0.0	1.0	0.0	30.0	0.038
...	...	...	...	...	...	...	...
1335	34100	1	0.0	1.0	0.0	NaN	0.576
1336	34110	0	1.0	1.0	0.0	46.0	3.705
1337	34113	1	1.0	1.0	0.0	39.0	0.099
1338	34145	0	1.0	0.0	0.0	8.0	3.177
1339	34153	1	1.0	1.0	0.0	30.0	0.688

1340 rows × 7 columns

```
data = data.drop(['CASENUM'],axis=1)
data
```

	ATTORNEY	CLMSEX	CLMINSUR	SEATBELT	CLMAGE	LOSS
0	0	0.0	1.0	0.0	50.0	34.940
1	1	1.0	0.0	0.0	18.0	0.891
2	1	0.0	1.0	0.0	5.0	0.330
3	0	0.0	1.0	1.0	31.0	0.037
4	1	0.0	1.0	0.0	30.0	0.038
...	...	...	...	...	...	...
1335	1	0.0	1.0	0.0	NaN	0.576
1336	0	1.0	1.0	0.0	46.0	3.705
1337	1	1.0	1.0	0.0	39.0	0.099
1338	0	1.0	0.0	0.0	8.0	3.177
1339	1	1.0	1.0	0.0	30.0	0.688

1340 rows × 6 columns

```
data.shape
```

```
(1340, 6)
```

```
data = data.dropna()
data
```

	ATTORNEY	CLMSEX	CLMINSUR	SEATBELT	CLMAGE	LOSS
0	0	0.0	1.0	0.0	50.0	34.940
1	1	1.0	0.0	0.0	18.0	0.891
2	1	0.0	1.0	0.0	5.0	0.330
3	0	0.0	1.0	1.0	31.0	0.037
4	1	0.0	1.0	0.0	30.0	0.038
...	...	...	...	...	...	...
1334	1	1.0	1.0	0.0	16.0	0.060
1336	0	1.0	1.0	0.0	46.0	3.705
1337	1	1.0	1.0	0.0	39.0	0.099
1338	0	1.0	0.0	0.0	8.0	3.177
1339	1	1.0	1.0	0.0	30.0	0.688

1096 rows × 6 columns

```
data.shape
```

```
(1096, 6)
```

```
x = data.iloc[:,1:]
y = data.iloc[:,0]

classifier = LogisticRegression()
classifier.fit(x,y)
```

```
LogisticRegression()
```

```
ypredict = classifier.predict(x)
ypredict
```

```
array([0, 1, 1, ..., 1, 0, 1], dtype=int64)
```

```
from sklearn.metrics import confusion_matrix
confusion_matrix = confusion_matrix(ypredict,y)
print(confusion_matrix)
```

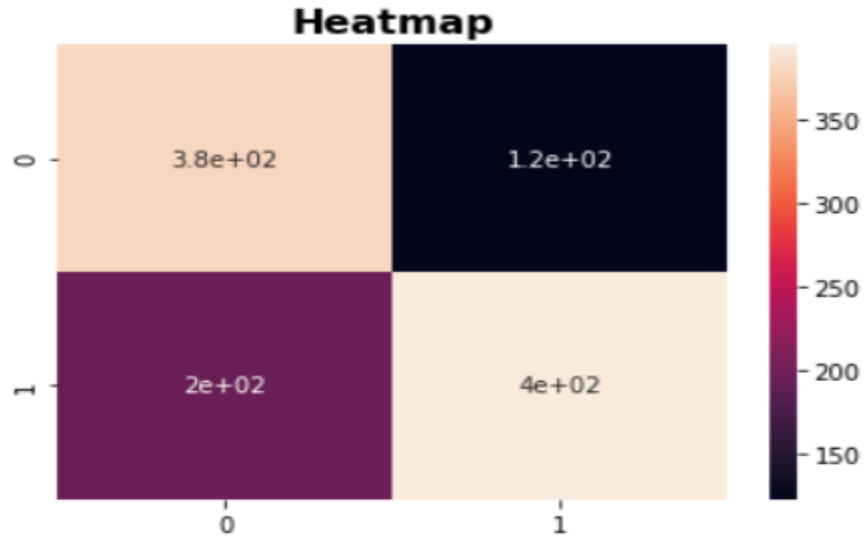
```
[[381 123]
 [197 395]]
```

```
from sklearn.metrics import classification_report
```

print(classification_report(ypredict,y))

	precision	recall	f1-score	support
0	0.66	0.76	0.70	504
1	0.76	0.67	0.71	592
accuracy			0.71	1096
macro avg	0.71	0.71	0.71	1096
weighted avg	0.72	0.71	0.71	1096

sns.heatmap(confusion_matrix,annot=True)
plt.title('Heatmap',fontsize=16,fontweight='bold')
fig=plt.figure(figsize=(16,8))



<Figure size 1152x576 with 0 Axes>

data.describe()

	ATTORNEY	CLMSEX	CLMINSUR	SEATBELT	CLMAGE	LOSS
count	1096.000000	1096.000000	1096.000000	1096.000000	1096.000000	1096.000000
mean	0.472628	0.564781	0.904197	0.018248	28.587591	3.856578
std	0.499478	0.496012	0.294455	0.133909	20.392621	10.473239
min	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
25%	0.000000	0.000000	1.000000	0.000000	9.000000	0.440000
50%	0.000000	1.000000	1.000000	0.000000	30.000000	1.311000
75%	1.000000	1.000000	1.000000	0.000000	43.000000	3.910500
max	1.000000	1.000000	1.000000	1.000000	95.000000	173.604000