```python
In [1]: import numpy as np
        import pandas as pd
        import matplotlib.pyplot as plt
```

```python
In [2]: df = pd.read_csv("./heart.csv");
        df.head()
```

Out[2]:

	age	sex	cp	trestbps	chol	fbs	restecg	thalach	exang	oldpeak	slope	ca	thal	target
0	63	1	3	145	233	1	0	150	0	2.3	0	0	1	1
1	37	1	2	130	250	0	1	187	0	3.5	0	0	2	1
2	41	0	1	130	204	0	0	172	0	1.4	2	0	2	1
3	56	1	1	120	236	0	1	178	0	0.8	2	0	2	1
4	57	0	0	120	354	0	1	163	1	0.6	2	0	2	1

```python
In [3]: df.tail()
```

Out[3]:

	age	sex	cp	trestbps	chol	fbs	restecg	thalach	exang	oldpeak	slope	ca	thal	target
298	57	0	0	140	241	0	1	123	1	0.2	1	0	3	0
299	45	1	3	110	264	0	1	132	0	1.2	1	0	3	0
300	68	1	0	144	193	1	1	141	0	3.4	1	2	3	0
301	57	1	0	130	131	0	1	115	1	1.2	1	1	3	0
302	57	0	1	130	236	0	0	174	0	0.0	1	1	2	0

```python
In [4]: x=df.drop("target",axis=1);
        y=df['target'];
```

```python
In [5]: x.head()
```

Out[5]:

	age	sex	cp	trestbps	chol	fbs	restecg	thalach	exang	oldpeak	slope	ca	thal
0	63	1	3	145	233	1	0	150	0	2.3	0	0	1
1	37	1	2	130	250	0	1	187	0	3.5	0	0	2
2	41	0	1	130	204	0	0	172	0	1.4	2	0	2
3	56	1	1	120	236	0	1	178	0	0.8	2	0	2
4	57	0	0	120	354	0	1	163	1	0.6	2	0	2

```
In [6]:  y.head()
```

```
Out[6]:  0    1
         1    1
         2    1
         3    1
         4    1
         Name: target, dtype: int64
```

```
In [7]:  from sklearn.model_selection import train_test_split
         x_train, x_test, y_train, y_test = train_test_split(x,y,test_size=0.2)
```

```
In [8]:  from sklearn.svm import SVC
```

```
In [9]:  model = SVC()
```

```
In [10]:  model.fit(x_train, y_train)
```

```
Out[10]:  SVC()
```

```
In [11]:  y_preds = model.predict(x_test)
```

```
In [12]:  model.score(x_test,y_test)
```

```
Out[12]:  0.6885245901639344
```

```
In [13]:  from sklearn.metrics import recall_score, f1_score, accuracy_score, precision_score
```

```
In [14]:  accuracy_score(y_test, y_preds)
```

```
Out[14]:  0.6885245901639344
```

```
In [15]:  recall_score(y_test, y_preds)
```

```
Out[15]:  0.8484848484848485
```

```
In [16]:  precision_score(y_test,y_preds)
```

```
Out[16]:  0.6666666666666666
```
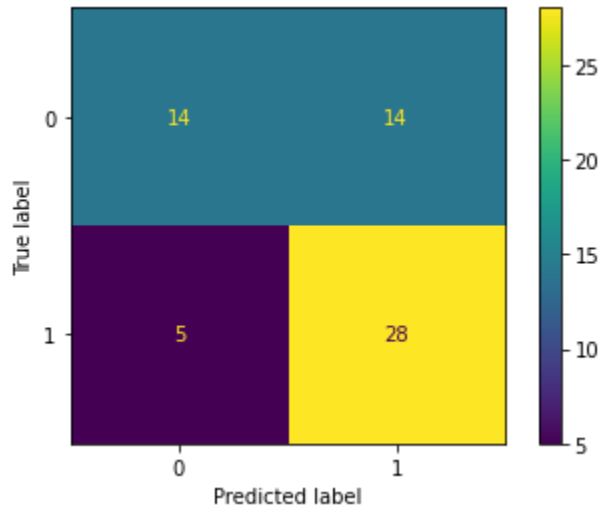
```
In [17]:  from sklearn.metrics import confusion_matrix, plot_confusion_matrix
```

```
In [18]:  confusion_matrix(y_test, y_preds)
```

```
Out[18]:  array([[14, 14],
                 [ 5, 28]], dtype=int64)
```

```
In [19]: plot_confusion_matrix(model,x_test,y_test)
```

Out[19]: <sklearn.metrics._plot.confusion_matrix.ConfusionMatrixDisplay at 0x1490381d1f0>


```
In [ ]:
```