

```
In [78]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
```

```
In [79]:
```

```
In [80]: df_test=pd.read_csv(r"C:\USERS\user\Downloads\C2_test.gender_submission - C2_te
```

```
Out[80]:
```

	PassengerId	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin
0	892	3	Kelly, Mr. James	male	34.5	0	0	330911	7.8292	NaN
1	893	3	Wilkes, Mrs. James (Ellen Needs)	female	47.0	1	0	363272	7.0000	NaN
2	894	2	Myles, Mr. Thomas Francis	male	62.0	0	0	240276	9.6875	NaN
3	895	3	Wirz, Mr. Albert	male	27.0	0	0	315154	8.6625	NaN
4	896	3	Hirvonen, Mrs. Alexander (Helga E Lindqvist)	female	22.0	1	1	3101298	12.2875	NaN
...	...	...	...	...	...	...	...	...	...	...
413	1305	3	Spector, Mr. Woolf	male	NaN	0	0	A.5. 3236	8.0500	NaN
414	1306	1	Oliva y Ocana, Dona. Fermina	female	39.0	0	0	PC 17758	108.9000	C105
415	1307	3	Saether, Mr. Simon Sivertsen	male	38.5	0	0	SOTON/O.Q. 3101262	7.2500	NaN
416	1308	3	Ware, Mr. Frederick	male	NaN	0	0	359309	8.0500	NaN
417	1309	3	Peter, Master. Michael J	male	NaN	1	1	2668	22.3583	NaN

418 rows × 11 columns

```
In [125]:
```

```
Out[125]: Index(['PassengerId', 'Pclass', 'Name', 'Sex', 'Age', 'SibSp', 'Parch',
'Ticket', 'Fare', 'Cabin', 'Embarked'],
dtype='object')
```

```
In [126]: a=dftest[['PassengerId', 'Pclass', 'Age', 'SibSp', 'Parch', 'Fare']]
```

```
Out[126]:
```

	PassengerId	Pclass	Age	SibSp	Parch	Fare
0	892	3	34.5	0	0	7.8292
1	893	3	47.0	1	0	7.0000
2	894	2	62.0	0	0	9.6875
3	895	3	27.0	0	0	8.6625
4	896	3	22.0	1	1	12.2875
...	...	...	...	...	...	...
413	1305	3	NaN	0	0	8.0500
414	1306	1	39.0	0	0	108.9000
415	1307	3	38.5	0	0	7.2500
416	1308	3	NaN	0	0	8.0500
417	1309	3	NaN	1	1	22.3583

418 rows × 6 columns

```
In [137]: b=dftest.head(10)
```

```
Out[137]:
```

	PassengerId	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
0	892	3	Kelly, Mr. James	male	34.5	0	0	330911	7.8292	NaN	
1	893	3	Wilkes, Mrs. James (Ellen Needs)	female	47.0	1	0	363272	7.0000	NaN	
2	894	2	Myles, Mr. Thomas Francis	male	62.0	0	0	240276	9.6875	NaN	
3	895	3	Wirz, Mr. Albert	male	27.0	0	0	315154	8.6625	NaN	
4	896	3	Hirvonen, Mrs. Alexander (Helga E Lindqvist)	female	22.0	1	1	3101298	12.2875	NaN	
5	897	3	Svensson, Mr. Johan Cervin	male	14.0	0	0	7538	9.2250	NaN	
6	898	3	Connolly, Miss. Kate	female	30.0	0	0	330972	7.6292	NaN	
7	899	2	Caldwell, Mr. Albert Francis	male	26.0	1	1	248738	29.0000	NaN	
8	900	3	Abraham, Mrs. Joseph (Sophie Halaut Easu)	female	18.0	0	0	2657	7.2292	NaN	
9	901	3	Davies, Mr. John Samuel	male	21.0	2	0	A/4 48871	24.1500	NaN	

```
In [138]: a=b[['PassengerId', 'Pclass', 'Age', 'SibSp', 'Parch', 'Fare']]
```

```
Out[138]:
```

	PassengerId	Pclass	Age	SibSp	Parch	Fare
0	892	3	34.5	0	0	7.8292
1	893	3	47.0	1	0	7.0000
2	894	2	62.0	0	0	9.6875
3	895	3	27.0	0	0	8.6625
4	896	3	22.0	1	1	12.2875
5	897	3	14.0	0	0	9.2250
6	898	3	30.0	0	0	7.6292
7	899	2	26.0	1	1	29.0000
8	900	3	18.0	0	0	7.2292
9	901	3	21.0	2	0	24.1500

```
In [139]: c=a.iloc[:,0:6]
```

```
In [140]:
```

```
Out[140]: (10, 6)
```

```
In [141]:
```

```
Out[141]: (10,)
```

```
In [142]:
```

```
In [143]:
```

```
In [144]: logr=LogisticRegression()
```

```
Out[144]: LogisticRegression()
```

```
In [145]:
```

```
In [146]: prediction=logr.predict(observation)
```

```
Out[146]: array(['S'], dtype=object)
```

```
In [147]:
```

```
Out[147]: array(['C', 'Q', 'S'], dtype=object)
```

```
In [148]:
```

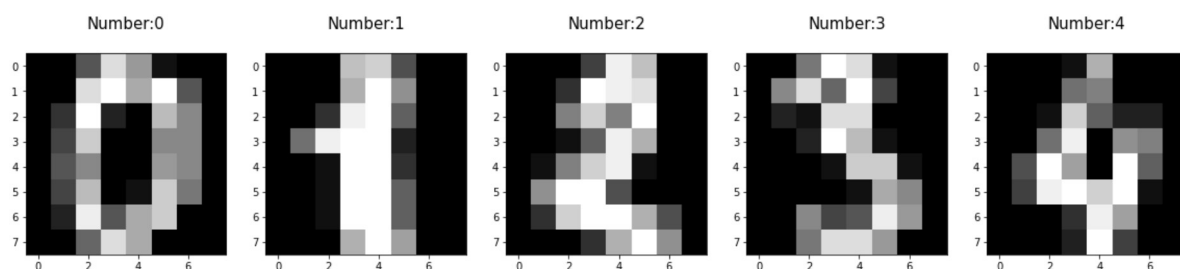
```
Out[148]: 3.7242438270424126e-10
```

```
In [149]: import re
from sklearn.datasets import load_digits
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.linear_model import LogisticRegression
```

```
In [150]: digits=load_digits()
```

```
Out[150]: {'data': array([[ 0.,  0.,  5., ...,  0.,  0.,  0.],
        [ 0.,  0.,  0., ..., 10.,  0.,  0.],
        [ 0.,  0.,  0., ..., 16.,  9.,  0.],
        ...,
        [ 0.,  0.,  1., ...,  6.,  0.,  0.],
        [ 0.,  0.,  2., ..., 12.,  0.,  0.],
        [ 0.,  0., 10., ..., 12.,  1.,  0.])),
  'target': array([0, 1, 2, ..., 8, 9, 8]),
  'frame': None,
  'feature_names': ['pixel_0_0',
    'pixel_0_1',
    'pixel_0_2',
    'pixel_0_3',
    'pixel_0_4',
    'pixel_0_5',
    'pixel_0_6',
    'pixel_0_7',
    'pixel_1_0',
    'pixel_1_1',
    'pixel_1_2',
    'pixel_1_3',
    'pixel_1_4',
    'pixel_1_5',
    'pixel_1_6',
    'pixel_1_7',
    'pixel_2_0',
    'pixel_2_1',
    'pixel_2_2',
    'pixel_2_3',
    'pixel_2_4',
    'pixel_2_5',
    'pixel_2_6',
    'pixel_2_7',
    'pixel_3_0',
    'pixel_3_1',
    'pixel_3_2',
    'pixel_3_3',
    'pixel_3_4',
    'pixel_3_5',
    'pixel_3_6',
    'pixel_3_7',
    'pixel_4_0',
    'pixel_4_1',
    'pixel_4_2',
    'pixel_4_3',
    'pixel_4_4',
    'pixel_4_5',
    'pixel_4_6',
    'pixel_4_7',
    'pixel_5_0',
    'pixel_5_1',
    'pixel_5_2',
    'pixel_5_3',
    'pixel_5_4',
    'pixel_5_5',
    'pixel_5_6',
    'pixel_5_7',
    'pixel_6_0',
    'pixel_6_1',
    'pixel_6_2',
    'pixel_6_3',
    'pixel_6_4',
    'pixel_6_5',
    'pixel_6_6',
    'pixel_6_7',
    'pixel_7_0',
    'pixel_7_1',
    'pixel_7_2',
    'pixel_7_3',
    'pixel_7_4',
    'pixel_7_5',
    'pixel_7_6',
    'pixel_7_7']},
  'DESCR':
  .....
```

```
In [151]: plt.figure(figsize=(20,4))
for index,(image,label) in enumerate(zip(digits.data[0:5],digits.target[0:5])):
    plt.subplot(1,5,index+1)
    plt.imshow(np.reshape(image,(8,8)),cmap=plt.cm.gray)
```



```
In [152]:
```

```
In [153]: print(x_train.shape)
print(x_test.shape)
print(y_train.shape)
```

```
(1257, 64)
(540, 64)
(1257,)
(540,)
```

```
In [154]: logre=LogisticRegression(max_iter=10000)
```

```
Out[154]: LogisticRegression(max_iter=10000)
```

```
In [155]:
```

```
[8 2 4 5 8 7 1 4 7 9 6 5 3 3 6 0 0 3 3 5 8 5 7 3 4 3 5 8 7 9 4 7 7 7 6 4 3
 0 0 7 3 8 5 8 0 0 6 0 9 1 1 0 4 4 3 2 7 6 7 4 2 3 7 1 1 8 2 5 0 7 0 7 9 4
 2 6 0 2 9 6 8 6 9 3 9 1 4 6 4 4 8 3 1 3 0 4 8 5 6 2 0 5 3 7 9 4 1 8 8 7 3
 1 7 6 3 0 0 2 1 0 3 1 7 8 1 5 5 5 5 4 9 5 1 2 6 7 0 7 1 2 9 3 6 2 0 8 9 7
 9 0 3 1 2 8 0 1 3 8 6 9 5 8 3 7 0 2 4 9 2 4 4 2 2 5 5 5 8 2 7 8 0 3 9 3 9
 2 9 1 5 8 7 6 2 5 3 6 6 1 6 0 0 0 0 2 5 2 4 8 0 3 6 9 7 4 7 5 5 1 7 4 8 9
 6 6 2 0 7 9 2 4 6 9 9 9 3 9 6 5 2 6 6 5 5 3 4 1 7 1 6 0 5 5 2 7 4 2 9 3 3
 1 4 7 2 9 1 5 5 8 0 0 4 1 2 4 6 5 7 5 0 8 7 6 4 1 4 4 4 7 8 3 4 3 0 2 5 4
 7 4 5 0 0 1 8 6 7 2 0 9 8 8 4 9 5 3 3 7 2 0 1 8 0 5 0 9 3 7 2 3 6 0 8 6 5
 7 5 3 0 8 9 1 7 8 2 0 0 2 5 3 4 3 1 5 6 6 4 4 7 7 3 5 9 9 3 6 0 2 6 9 4 7
 7 1 7 7 8 1 4 3 5 2 8 7 5 6 0 9 3 3 5 5 8 6 3 6 3 9 1 3 5 5 2 3 6 0 1 4 8
 8 4 2 9 2 1 4 0 1 7 1 6 9 6 3 4 9 7 4 5 7 3 9 7 1 9 6 0 9 0 0 6 5 1 0 2 1
 4 7 9 2 5 1 3 8 7 4 6 2 8 5 4 9 6 4 1 4 2 6 8 9 9 9 0 1 2 6 7 6 7 2 1 3 7
 0 5 6 4 6 4 4 3 9 0 2 5 0 8 2 5 6 6 3 4 2 7 3 6 2 9 1 0 9 6 7 2 9 7 4 2 2
 8 8 9 8 4 2 6 7 0 8 1 4 2 7 0 2 2 5 0 0 7 4]
```

```
In [156]:
```

```
0.9666666666666667
```

```
In [ ]:
```