In [3]:
```python
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline
```

In [34]:
```python
#read_csv is a pandas function to read csv files
data=pd.read_csv('E:\\NMDS\Admission_Predict.csv')
data.head()
```

Out[34]:

	Serial No.	GRE Score	TOEFL Score	University Rating	SOP	LOR	CGPA	Research	Chance of Admit
0	1	337	118	4	4.5	4.5	9.65	1	0.92
1	2	324	107	4	4.0	4.5	8.87	1	0.76
2	3	316	104	3	3.0	3.5	8.00	1	0.72
3	4	322	110	3	3.5	2.5	8.67	1	0.80
4	5	314	103	2	2.0	3.0	8.21	0	0.65

In [37]:
```python
data.isnull().sum()
```

Out[37]:
```
Serial No.           0
GRE Score            0
TOEFL Score          0
University Rating    0
SOP                  0
LOR                  0
CGPA                 0
Research             0
Chance of Admit      0
dtype: int64
```

In [5]:
```python
data.isnull().any()
```

Out[5]:
```
Serial No.           False
GRE Score            False
TOEFL Score          False
University Rating    False
SOP                  False
LOR                  False
CGPA                 False
Research             False
Chance of Admit      False
dtype: bool
```

In [35]:
```python
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 400 entries, 0 to 399
Data columns (total 9 columns):
 #   Column             Non-Null Count  Dtype
---  ------             --------------  -----
 0   Serial No.         400 non-null    int64
 1   GRE Score          400 non-null    int64
 2   TOEFL Score        400 non-null    int64
 3   University Rating  400 non-null    int64
 4   SOP                400 non-null    float64
 5   LOR                400 non-null    float64
 6   CGPA               400 non-null    float64
 7   Research           400 non-null    int64
 8   Chance of Admit    400 non-null    float64
dtypes: float64(4), int64(5)
memory usage: 28.2 KB
```

In [36]: `data.shape`

Out[36]: `(400, 9)`

In [6]:
```python
#let us rename the column chance of Admit because it has trainling space
data=data.rename(columns={'chance of Admit':'chance of Admit'})
```

In [7]: `data.describe()`

Out[7]:

	Serial No.	GRE Score	TOEFL Score	University Rating	SOP	LOR	CGPA	Research
count	400.000000	400.000000	400.000000	400.000000	400.000000	400.000000	400.000000	400.000000
mean	200.500000	316.807500	107.410000	3.087500	3.400000	3.452500	8.598925	0.547500
std	115.614301	11.473646	6.069514	1.143728	1.006869	0.898478	0.596317	0.498362
min	1.000000	290.000000	92.000000	1.000000	1.000000	1.000000	6.800000	0.000000
25%	100.750000	308.000000	103.000000	2.000000	2.500000	3.000000	8.170000	0.000000
50%	200.500000	317.000000	107.000000	3.000000	3.500000	3.500000	8.610000	1.000000
75%	300.250000	325.000000	112.000000	4.000000	4.000000	4.000000	9.062500	1.000000
max	400.000000	340.000000	120.000000	5.000000	5.000000	5.000000	9.920000	1.000000

In [8]: `sns.distplot(data['GRE Score'])`

```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2619: FutureWarni
ng: `distplot` is a deprecated function and will be removed in a future version. Plea
se adapt your code to use either `displot` (a figure-level function with similar flex
ibility) or `histplot` (an axes-level function for histograms).
  warnings.warn(msg, FutureWarning)
```
Out[8]: `<AxesSubplot:xlabel='GRE Score', ylabel='Density'>`
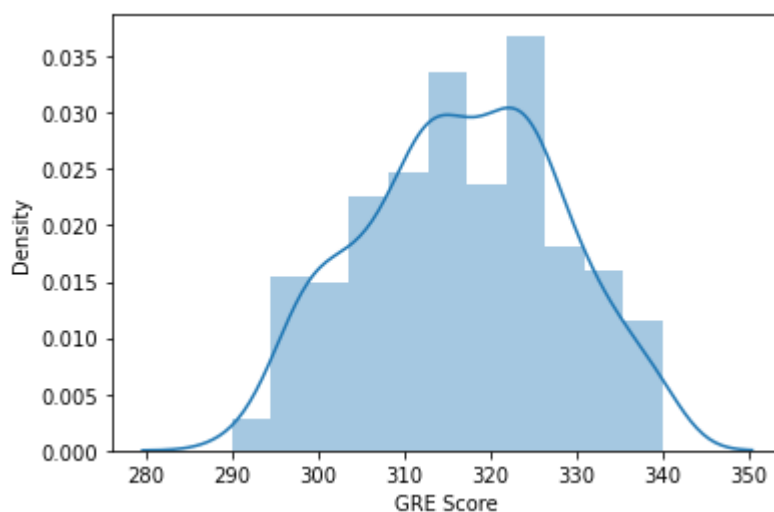
```python
In [38]:  plt.figure(figsize=(10,7))
          sns.heatmap(data.corr(),annot=True)
```

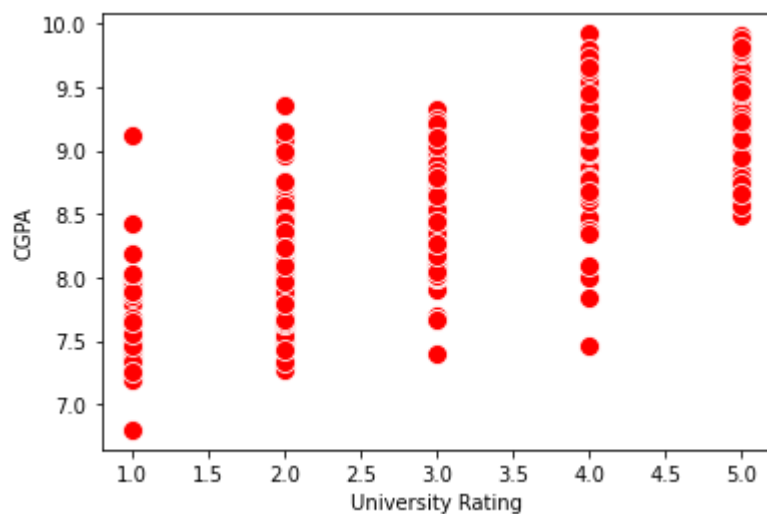Out[38]: <AxesSubplot:>
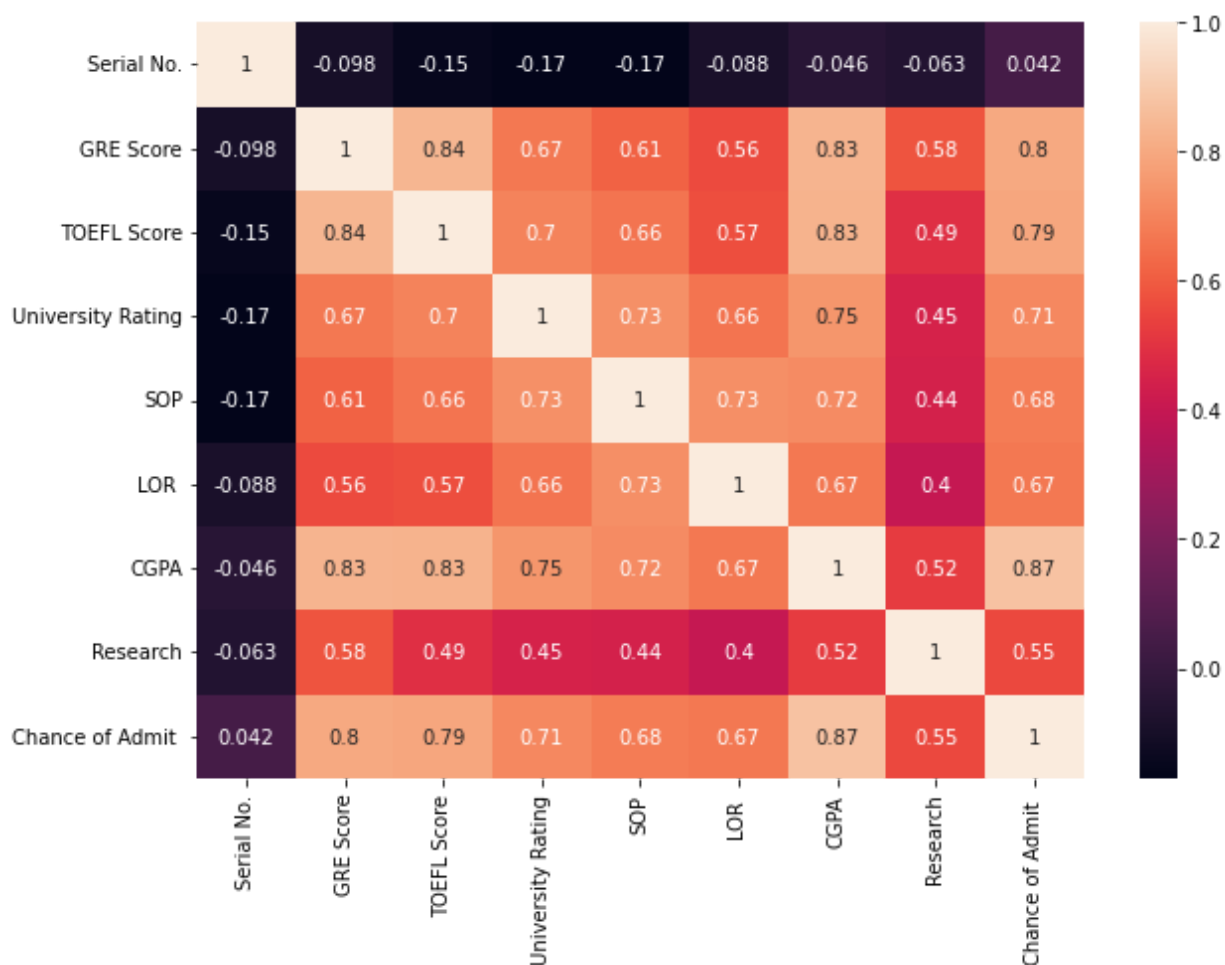

```python
In [9]:  sns.pairplot(data=data,hue='Research',markers=["^","v"],palette='inferno')
```

Out[9]: <seaborn.axisgrid.PairGrid at 0xa498d00>

```
In [24]:  sns.scatterplot(x='University Rating',y='CGPA',data=data,color='red',s=100)
```

```
Out[24]:  <AxesSubplot:xlabel='University Rating', ylabel='CGPA'>
```

In [25]:
```python
category = ['GRE Score','TOEFL Score','University Rating','SOP','LOR','CGPA','Research
color = ['yellowgreen','gold','lightskyblue','pink','red','purple','orange','gray']
start = True
for i in np.arange(4):
  fig = plt.figure(figsize=(14,8))
  plt.subplot2grid((4,2),(i,0))
  data[category[2*i]].hist(color=color[2*i],bins=10)
  plt.title(category[2*i])
  plt.subplot2grid((4,2),(i,1))
  data[category[2*i+1]].hist(color=color[2*i+1],bins=10)
  plt.title(category[2*i+1])
plt.subplots_adjust(hspace = 0.7,wspace = 0.2)
plt.show()
```

```
---------------------------------------------------------------------------
KeyError                                  Traceback (most recent call last)
File C:\ProgramData\Anaconda3\lib\site-packages\pandas\core\indexes\base.py:3621, in
Index.get_loc(self, key, method, tolerance)
   3620 try:
-> 3621     return self._engine.get_loc(casted_key)
   3622 except KeyError as err:

File C:\ProgramData\Anaconda3\lib\site-packages\pandas\_libs\index.pyx:136, in panda
s._libs.index.IndexEngine.get_loc()

File C:\ProgramData\Anaconda3\lib\site-packages\pandas\_libs\index.pyx:163, in panda
s._libs.index.IndexEngine.get_loc()

File pandas\_libs\hashtable_class_helper.pxi:5198, in pandas._libs.hashtable.PyObject
HashTable.get_item()

File pandas\_libs\hashtable_class_helper.pxi:5206, in pandas._libs.hashtable.PyObject
HashTable.get_item()

KeyError: 'LOR'


The above exception was the direct cause of the following exception:

KeyError                                  Traceback (most recent call last)
Input In [25], in <cell line: 4>()
      5 fig = plt.figure(figsize=(14,8))
      6 plt.subplot2grid((4,2),(i,0))
----> 7 data[category[2*i]].hist(color=color[2*i],bins=10)
      8 plt.title(category[2*i])
      9 plt.subplot2grid((4,2),(i,1))

File C:\ProgramData\Anaconda3\lib\site-packages\pandas\core\frame.py:3505, in DataFra
me.__getitem__(self, key)
   3503 if self.columns.nlevels > 1:
   3504     return self._getitem_multilevel(key)
-> 3505 indexer = self.columns.get_loc(key)
   3506 if is_integer(indexer):
   3507     indexer = [indexer]

File C:\ProgramData\Anaconda3\lib\site-packages\pandas\core\indexes\base.py:3623, in
Index.get_loc(self, key, method, tolerance)
   3621     return self._engine.get_loc(casted_key)
   3622 except KeyError as err:
-> 3623     raise KeyError(key) from err
   3624 except TypeError:
   3625     # If we have a listlike key, _check_indexing_error will raise
   3626     #  InvalidIndexError. Otherwise we fall through and re-raise
   3627     #  the TypeError.
   3628     self._check_indexing_error(key)

KeyError: 'LOR'
```
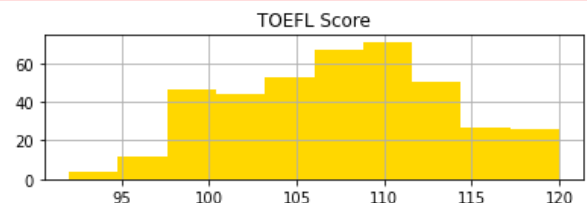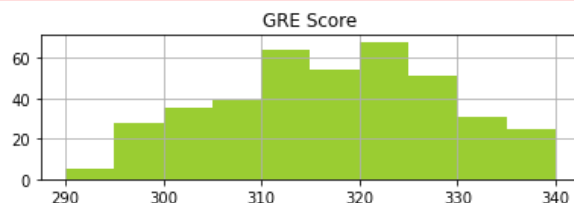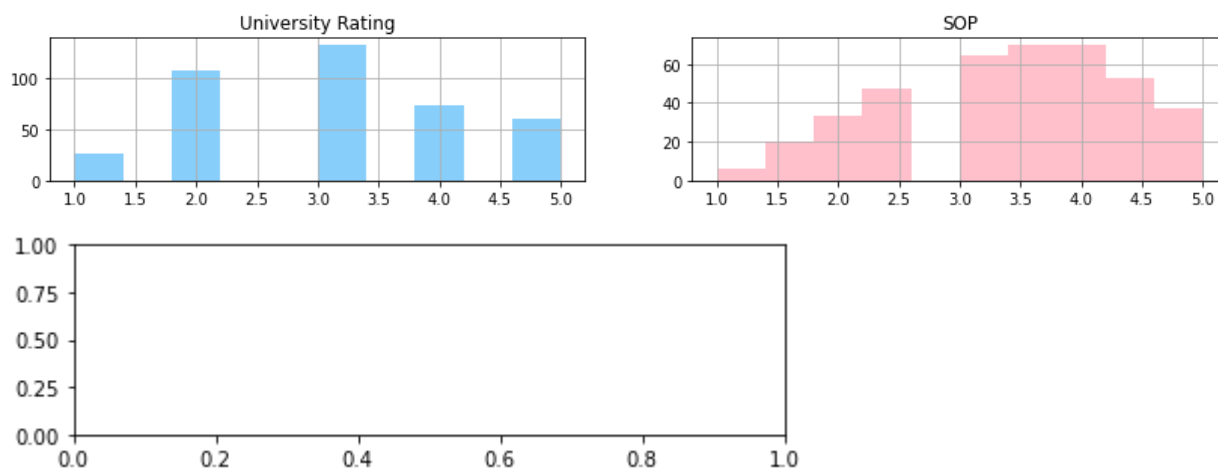
```
In [26]: from sklearn.preprocessing import MinMaxScaler
         sc = MinMaxScaler()
         x=sc.fit_transform(x)
         x
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [26], in <cell line: 3>()
      1 from sklearn.preprocessing import MinMaxScaler
      2 sc = MinMaxScaler()
----> 3 x=sc.fit_transform(x)
      4 x

NameError: name 'x' is not defined
```

```
In [27]: x=data.iloc[:,0:7].values
         x
```

```
Out[27]: array([[  1.  , 337.  , 118.  , ...,    4.5 ,    4.5 ,    9.65],
                [  2.  , 324.  , 107.  , ...,    4.  ,    4.5 ,    8.87],
                [  3.  , 316.  , 104.  , ...,    3.  ,    3.5 ,    8.  ],
                ...,
                [398.  , 330.  , 116.  , ...,    5.  ,    4.5 ,    9.45],
                [399.  , 312.  , 103.  , ...,    3.5 ,    4.  ,    8.78],
                [400.  , 333.  , 117.  , ...,    5.  ,    4.  ,    9.66]])
```

```
In [28]: y=data.iloc[:,7:].values
         y
```

```
Out[28]:  array([[1.  , 0.92],
                 [1.  , 0.76],
                 [1.  , 0.72],
                 [1.  , 0.8 ],
                 [0.  , 0.65],
                 [1.  , 0.9 ],
                 [1.  , 0.75],
                 [0.  , 0.68],
                 [0.  , 0.5 ],
                 [0.  , 0.45],
                 [1.  , 0.52],
                 [1.  , 0.84],
                 [1.  , 0.78],
                 [1.  , 0.62],
                 [1.  , 0.61],
                 [0.  , 0.54],
                 [0.  , 0.66],
                 [1.  , 0.65],
                 [0.  , 0.63],
                 [0.  , 0.62],
                 [1.  , 0.64],
                 [0.  , 0.7 ],
                 [1.  , 0.94],
                 [1.  , 0.95],
                 [1.  , 0.97],
                 [1.  , 0.94],
                 [0.  , 0.76],
                 [1.  , 0.44],
                 [0.  , 0.46],
                 [0.  , 0.54],
                 [1.  , 0.65],
                 [1.  , 0.74],
                 [1.  , 0.91],
                 [1.  , 0.9 ],
                 [1.  , 0.94],
                 [1.  , 0.88],
                 [0.  , 0.64],
                 [0.  , 0.58],
                 [0.  , 0.52],
                 [0.  , 0.48],
                 [1.  , 0.46],
                 [1.  , 0.49],
                 [1.  , 0.53],
                 [0.  , 0.87],
                 [1.  , 0.91],
                 [1.  , 0.88],
                 [1.  , 0.86],
                 [0.  , 0.89],
                 [1.  , 0.82],
                 [1.  , 0.78],
                 [1.  , 0.76],
                 [1.  , 0.56],
                 [1.  , 0.78],
                 [1.  , 0.72],
                 [0.  , 0.7 ],
                 [0.  , 0.64],
                 [0.  , 0.64],
                 [0.  , 0.46],
                 [1.  , 0.36],
                 [0.  , 0.42],
```

```
       [0.  , 0.48],
       [0.  , 0.47],
       [1.  , 0.54],
       [1.  , 0.56],
       [0.  , 0.52],
       [0.  , 0.55],
       [0.  , 0.61],
       [1.  , 0.57],
       [1.  , 0.68],
       [1.  , 0.78],
       [1.  , 0.94],
       [1.  , 0.96],
       [1.  , 0.93],
       [1.  , 0.84],
       [0.  , 0.74],
       [1.  , 0.72],
       [1.  , 0.74],
       [0.  , 0.64],
       [1.  , 0.44],
       [0.  , 0.46],
       [1.  , 0.5 ],
       [1.  , 0.96],
       [1.  , 0.92],
       [1.  , 0.92],
       [1.  , 0.94],
       [0.  , 0.76],
       [0.  , 0.72],
       [0.  , 0.66],
       [0.  , 0.64],
       [1.  , 0.74],
       [1.  , 0.64],
       [0.  , 0.38],
       [0.  , 0.34],
       [1.  , 0.44],
       [0.  , 0.36],
       [0.  , 0.42],
       [0.  , 0.48],
       [1.  , 0.86],
       [1.  , 0.9 ],
       [1.  , 0.79],
       [1.  , 0.71],
       [0.  , 0.64],
       [0.  , 0.62],
       [0.  , 0.57],
       [1.  , 0.74],
       [1.  , 0.69],
       [1.  , 0.87],
       [1.  , 0.91],
       [1.  , 0.93],
       [0.  , 0.68],
       [0.  , 0.61],
       [1.  , 0.69],
       [1.  , 0.62],
       [0.  , 0.72],
       [1.  , 0.59],
       [1.  , 0.66],
       [0.  , 0.56],
       [0.  , 0.45],
       [0.  , 0.47],
       [1.  , 0.71],
```

```
       [1.  , 0.94],
       [1.  , 0.94],
       [0.  , 0.57],
       [0.  , 0.61],
       [0.  , 0.57],
       [1.  , 0.64],
       [1.  , 0.85],
       [1.  , 0.78],
       [1.  , 0.84],
       [1.  , 0.92],
       [1.  , 0.96],
       [0.  , 0.77],
       [0.  , 0.71],
       [0.  , 0.79],
       [1.  , 0.89],
       [1.  , 0.82],
       [0.  , 0.76],
       [1.  , 0.71],
       [1.  , 0.8 ],
       [0.  , 0.78],
       [1.  , 0.84],
       [1.  , 0.9 ],
       [1.  , 0.92],
       [1.  , 0.97],
       [1.  , 0.8 ],
       [1.  , 0.81],
       [0.  , 0.75],
       [1.  , 0.83],
       [1.  , 0.96],
       [1.  , 0.79],
       [1.  , 0.93],
       [1.  , 0.94],
       [1.  , 0.86],
       [0.  , 0.79],
       [0.  , 0.8 ],
       [0.  , 0.77],
       [0.  , 0.7 ],
       [0.  , 0.65],
       [0.  , 0.61],
       [0.  , 0.52],
       [0.  , 0.57],
       [0.  , 0.53],
       [0.  , 0.67],
       [0.  , 0.68],
       [1.  , 0.81],
       [0.  , 0.78],
       [0.  , 0.65],
       [0.  , 0.64],
       [1.  , 0.64],
       [0.  , 0.65],
       [1.  , 0.68],
       [1.  , 0.89],
       [1.  , 0.86],
       [1.  , 0.89],
       [1.  , 0.87],
       [1.  , 0.85],
       [1.  , 0.9 ],
       [0.  , 0.82],
       [0.  , 0.72],
       [0.  , 0.73],
```

```
         [0.  , 0.71],
         [0.  , 0.71],
         [0.  , 0.68],
         [0.  , 0.75],
         [0.  , 0.72],
         [1.  , 0.89],
         [1.  , 0.84],
         [1.  , 0.93],
         [1.  , 0.93],
         [1.  , 0.88],
         [1.  , 0.9 ],
         [1.  , 0.87],
         [1.  , 0.86],
         [1.  , 0.94],
         [0.  , 0.77],
         [1.  , 0.78],
         [0.  , 0.73],
         [0.  , 0.73],
         [0.  , 0.7 ],
         [0.  , 0.72],
         [1.  , 0.73],
         [1.  , 0.72],
         [1.  , 0.97],
         [1.  , 0.97],
         [0.  , 0.69],
         [0.  , 0.57],
         [0.  , 0.63],
         [1.  , 0.66],
         [0.  , 0.64],
         [1.  , 0.68],
         [1.  , 0.79],
         [1.  , 0.82],
         [1.  , 0.95],
         [1.  , 0.96],
         [1.  , 0.94],
         [1.  , 0.93],
         [1.  , 0.91],
         [1.  , 0.85],
         [1.  , 0.84],
         [0.  , 0.74],
         [0.  , 0.76],
         [0.  , 0.75],
         [0.  , 0.76],
         [0.  , 0.71],
         [0.  , 0.67],
         [0.  , 0.61],
         [0.  , 0.63],
         [0.  , 0.64],
         [0.  , 0.71],
         [1.  , 0.82],
         [0.  , 0.73],
         [1.  , 0.74],
         [0.  , 0.69],
         [0.  , 0.64],
         [1.  , 0.91],
         [1.  , 0.88],
         [1.  , 0.85],
         [1.  , 0.86],
         [0.  , 0.7 ],
         [0.  , 0.59],
```

```
[0.  , 0.6 ],
[0.  , 0.65],
[1.  , 0.7 ],
[1.  , 0.76],
[0.  , 0.63],
[1.  , 0.81],
[0.  , 0.72],
[0.  , 0.71],
[1.  , 0.8 ],
[1.  , 0.77],
[1.  , 0.74],
[0.  , 0.7 ],
[1.  , 0.71],
[1.  , 0.93],
[0.  , 0.85],
[0.  , 0.79],
[0.  , 0.76],
[1.  , 0.78],
[1.  , 0.77],
[1.  , 0.9 ],
[1.  , 0.87],
[0.  , 0.71],
[1.  , 0.7 ],
[1.  , 0.7 ],
[1.  , 0.75],
[0.  , 0.71],
[0.  , 0.72],
[1.  , 0.73],
[0.  , 0.83],
[0.  , 0.77],
[1.  , 0.72],
[0.  , 0.54],
[0.  , 0.49],
[1.  , 0.52],
[0.  , 0.58],
[1.  , 0.78],
[1.  , 0.89],
[0.  , 0.7 ],
[0.  , 0.66],
[0.  , 0.67],
[1.  , 0.68],
[1.  , 0.8 ],
[1.  , 0.81],
[1.  , 0.8 ],
[1.  , 0.94],
[1.  , 0.93],
[1.  , 0.92],
[1.  , 0.89],
[0.  , 0.82],
[0.  , 0.79],
[0.  , 0.58],
[0.  , 0.56],
[0.  , 0.56],
[1.  , 0.64],
[1.  , 0.61],
[0.  , 0.68],
[0.  , 0.76],
[0.  , 0.86],
[1.  , 0.9 ],
[0.  , 0.71],
```

```
       [0.  , 0.62],
       [0.  , 0.66],
       [1.  , 0.65],
       [1.  , 0.73],
       [0.  , 0.62],
       [1.  , 0.74],
       [1.  , 0.79],
       [1.  , 0.8 ],
       [0.  , 0.69],
       [0.  , 0.7 ],
       [1.  , 0.76],
       [1.  , 0.84],
       [1.  , 0.78],
       [0.  , 0.67],
       [0.  , 0.66],
       [0.  , 0.65],
       [0.  , 0.54],
       [0.  , 0.58],
       [1.  , 0.79],
       [1.  , 0.8 ],
       [1.  , 0.75],
       [1.  , 0.73],
       [0.  , 0.72],
       [0.  , 0.62],
       [0.  , 0.67],
       [1.  , 0.81],
       [0.  , 0.63],
       [0.  , 0.69],
       [1.  , 0.8 ],
       [0.  , 0.43],
       [1.  , 0.8 ],
       [1.  , 0.73],
       [1.  , 0.75],
       [1.  , 0.71],
       [1.  , 0.73],
       [1.  , 0.83],
       [0.  , 0.72],
       [1.  , 0.94],
       [1.  , 0.81],
       [1.  , 0.81],
       [1.  , 0.75],
       [1.  , 0.79],
       [0.  , 0.58],
       [0.  , 0.59],
       [0.  , 0.47],
       [0.  , 0.49],
       [0.  , 0.47],
       [0.  , 0.42],
       [0.  , 0.57],
       [0.  , 0.62],
       [1.  , 0.74],
       [1.  , 0.73],
       [1.  , 0.64],
       [0.  , 0.63],
       [0.  , 0.59],
       [0.  , 0.73],
       [1.  , 0.79],
       [1.  , 0.68],
       [0.  , 0.7 ],
       [0.  , 0.81],
```

```
       [1.  , 0.85],
       [1.  , 0.93],
       [1.  , 0.91],
       [0.  , 0.69],
       [1.  , 0.77],
       [1.  , 0.86],
       [1.  , 0.74],
       [0.  , 0.57],
       [0.  , 0.51],
       [1.  , 0.67],
       [0.  , 0.72],
       [1.  , 0.89],
       [1.  , 0.95],
       [1.  , 0.79],
       [0.  , 0.39],
       [0.  , 0.38],
       [0.  , 0.34],
       [0.  , 0.47],
       [0.  , 0.56],
       [1.  , 0.71],
       [1.  , 0.78],
       [1.  , 0.73],
       [1.  , 0.82],
       [0.  , 0.62],
       [1.  , 0.96],
       [1.  , 0.96],
       [0.  , 0.46],
       [0.  , 0.53],
       [0.  , 0.49],
       [1.  , 0.76],
       [0.  , 0.64],
       [0.  , 0.71],
       [1.  , 0.84],
       [0.  , 0.77],
       [1.  , 0.89],
       [1.  , 0.82],
       [1.  , 0.84],
       [1.  , 0.91],
       [0.  , 0.67],
       [1.  , 0.95]])
```

In [11]:
```python
from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.30,random_state=101)
#random_state acts as the seed for the random number generator during the split
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [11], in <cell line: 2>()
      1 from sklearn.model_selection import train_test_split
----> 2 x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.30,random_stat
e=101)

NameError: name 'x' is not defined
```

In [29]:
```python
y_train=(y_train>0.5)
y_train
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [29], in <cell line: 1>()
----> 1 y_train=(y_train>0.5)
        2 y_train

NameError: name 'y_train' is not defined
```

In [30]:
```python
y_test=(y_test>0.5)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [30], in <cell line: 1>()
----> 1 y_test=(y_test>0.5)

NameError: name 'y_test' is not defined
```

In [31]:
```python
from sklearn.linear_model.logistic import LogisticRegression
cls =LogisticRegression(random_state =0)

lr=cls.fit(x_train,y_train)

c:\Users\Tulasi\anaconda3\lib\site.packages\sklearn\utils\validation.py:760: DataConve
array was expected.please change the shape of y to(n_samples,), for example using rave
 y = column_or_1d(y,warn=true)

y_pred =lr.predict(x_test)
y_pred
```

```
  Input In [31]
    c:\Users\Tulasi\anaconda3\lib\site.packages\sklearn\utils\validation.py:760: Data
Conversionwarn
          ^
SyntaxError: unexpected character after line continuation character
```

In [12]:
```python
#Libraries to train Neural network
import tensorflow as tf
from tensorflow import keras
from tensorflow.keras.layers import Dense,Activation,Dropout
from tensorfrom.keras.optimizers import Adam
```

```
---------------------------------------------------------------------------
ModuleNotFoundError                       Traceback (most recent call last)
Input In [12], in <cell line: 2>()
        1 #Libraries to train Neural network
----> 2 import tensorflow as tf
        3 from tensorflow import keras
        4 from tensorflow.keras.layers import Dense,Activation,Dropout

ModuleNotFoundError: No module named 'tensorflow'
```

In [32]:
```python
#Initialize the model
model=Keras.Sequential()

#Add input layer
model.add(Dense(7,activation ='relu',input_dim=7))

#Add hidden layer
model.add(Dense(7,activation ='relu'))
```

```python
#Add output layer
model.add(Dense(1,activation ='linear'))

model.summary()

model: "sequential"
model.summary()
model: "sequential"
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [32], in <cell line: 2>()
      1 #Initialize the model
----> 2 model=Keras.Sequential()
      4 #Add input layer
      5 model.add(Dense(7,activation ='relu',input_dim=7))

NameError: name 'Keras' is not defined
```

In [14]:
```python
model.fit(x_train, y_train, batch_size = 20, epochs = 100)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [14], in <cell line: 1>()
----> 1 model.fit(x_train, y_train, batch_size = 20, epochs = 100)

NameError: name 'model' is not defined
```

In [15]:
```python
model.compile(loss = 'binary_crossentropy', optimizer = 'adam',metics = ['accuracy'])
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [15], in <cell line: 1>()
----> 1 model.compile(loss = 'binary_crossentropy', optimizer = 'adam',metics = ['accuracy'])

NameError: name 'model' is not defined
```

In [16]:
```python
model.fit(x_train, y_train, batch_size = 20, epochs = 100)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [16], in <cell line: 1>()
----> 1 model.fit(x_train, y_train, batch_size = 20, epochs = 100)

NameError: name 'model' is not defined
```

In [17]:
```python
from sklearn.metrics import accuracy_score


#make predictions on the training data
train_predictions = model.predict(x_train)

print(train_predictions)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [17], in <cell line: 6>()
      1 from sklearn.metrics import accuracy_score
      5 #make predictions on the training data
----> 6 train_predictions = model.predict(x_train)
      8 print(train_predictions)

NameError: name 'model' is not defined
```

In [18]:
```
# Get the training accuracy
train_acc = model.evaluate(x_train, y_train,verbos=0)[1]

print(train_acc)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [18], in <cell line: 2>()
      1 # Get the training accuracy
----> 2 train_acc = model.evaluate(x_train, y_train,verbos=0)[1]
      4 print(train_acc)

NameError: name 'model' is not defined
```

In [19]:
```
#Get the test accuracy
test_acc = model.evaluate(x_test, y_test, verbose=0)[1]
print(test_acc)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [19], in <cell line: 2>()
      1 #Get the test accuracy
----> 2 test_acc = model.evaluate(x_test, y_test, verbose=0)[1]
      3 print(test_acc)

NameError: name 'model' is not defined
```

In [20]:
```
print(classification report(v test,pred))
```

```
  Input In [20]
    print(classification report(v test,pred))
                        ^
SyntaxError: invalid syntax
```

In [21]:
```
pred=model.predict(x_test)
pred = (pred>0.5)
pred
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [21], in <cell line: 1>()
----> 1 pred=model.predict(x_test)
      2 pred = (pred>0.5)
      3 pred

NameError: name 'model' is not defined
```

In [39]:
```
from sklearn.metrics import accuracy_score,recall_score,roc_auc_score,confusion_matrix
print("\nAccuracy_score: %f"  %(accuracy_score(y_test,y_pred)*100))
print("Recall Score: %f"  %(recall_score(y_test,y_pred)*100))
```

```python
print("ROC_Score: %f"  %(roc_auc_score(y_test,y_pred)*100))
print(confusion_matrix(y_test,y_pred))
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [39], in <cell line: 2>()
      1 from sklearn.metrics import accuracy_score,recall_score,roc_auc_score,confusi
on_matrix
----> 2 print("\nAccuracy_score: %f"  %(accuracy_score(y_test,y_pred)*100))
      3 print("Recall Score: %f"  %(recall_score(y_test,y_pred)*100))
      4 print("ROC_Score: %f"  %(roc_auc_score(y_test,y_pred)*100))

NameError: name 'y_test' is not defined
```

```python
In [ ]:  #save the model in h5 format
         model.save('model5.h')
```

```python
In [ ]:  import numpy as np
         from flask import Flask,request,jsonify, render_teplate
         import pickle
         app=Flask(__name__)
         #import necessary libraries
         from.tensorflow.keras.models import load_model
         #model=pickle.load(open('university.pkl','rb'))
```

```python
In [ ]:  #load model trained model
         load.model('model.h5')
```

```python
In [ ]:  @pp.route('/')
         def.home():
             retun render_template('Demo2.html')
```