In [1]:

```
import numpy as np
import pandas as pd

import os
for dirname, _, filenames in os.walk('/kaggle/input'):
    for filename in filenames:
        print(os.path.join(dirname, filename))
```

In [2]:

```
import pandas as pd
import matplotlib.pyplot as plt
admission = pd.read_csv('C:/Users/Hp/Desktop/Naalaiya_thiran/archive/Admission_Predict.csv')
```

In [3]:

```
admission.head()
```

Out[3]:

	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 [4]:

```
admission.shape
```

Out[4]:

```
(400, 9)
```

In [5]:

```
admission.columns
```

Out[5]:

```
Index(['Serial No.', 'GRE Score', 'TOEFL Score', 'University Rating', 'SOP',
       'LOR ', 'CGPA', 'Research', 'Chance of Admit '],
      dtype='object')
```

In [6]:

```
admission.describe()
```

Out[6]:

	Serial No.	GRE Score	TOEFL Score	University Rating	SOP	LOR	CGPA	Research	Chance of Admit
count	400.000000	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	0.724350
std	115.614301	11.473646	6.069514	1.143728	1.006869	0.898478	0.596317	0.498362	0.142609
min	1.000000	290.000000	92.000000	1.000000	1.000000	1.000000	6.800000	0.000000	0.340000
25%	100.750000	308.000000	103.000000	2.000000	2.500000	3.000000	8.170000	0.000000	0.640000
50%	200.500000	317.000000	107.000000	3.000000	3.500000	3.500000	8.610000	1.000000	0.730000
75%	300.250000	325.000000	112.000000	4.000000	4.000000	4.000000	9.062500	1.000000	0.830000
max	400.000000	340.000000	120.000000	5.000000	5.000000	5.000000	9.920000	1.000000	0.970000

In [7]:

```
admission.info()
```

```
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 [8]:

```
admission.isnull().sum()
```

Out[8]:

```
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 [9]:

```
X=admission.drop(['Serial No.','Chance of Admit '],axis=1) #input data_set
X.shape
```

Out[9]:

```
(400, 7)
```

In [10]:

```
y=admission['Chance of Admit '] #output labels
y.shape
```

Out[10]:

```
(400,)
```

In [11]:

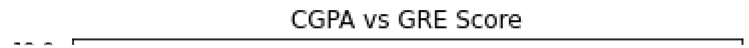
```
admission.sample(5)
```

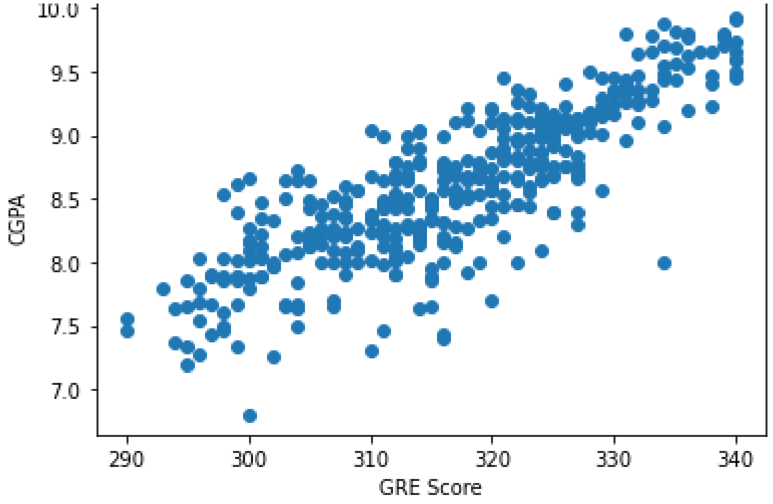
Out[11]:

	Serial No.	GRE Score	TOEFL Score	University Rating	SOP	LOR	CGPA	Research	Chance of Admit
151	152	332	116	5	5.0	5.0	9.28	1	0.94
68	69	318	109	3	3.5	4.0	9.22	1	0.68
278	279	308	103	2	3.0	3.5	8.49	0	0.66
190	191	324	111	5	4.5	4.0	9.16	1	0.90
145	146	320	113	2	2.0	2.5	8.64	1	0.81

In [12]:

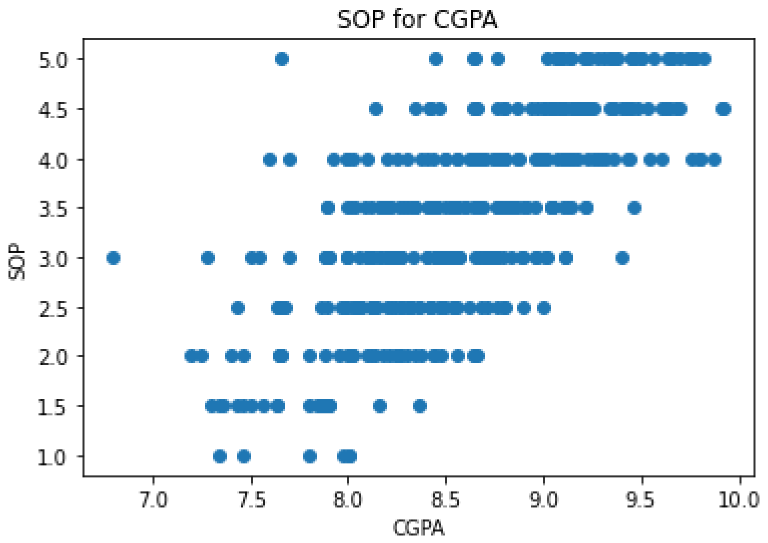
```
plt.scatter(admission['GRE Score'],admission['CGPA'])
plt.title('CGPA vs GRE Score')
plt.xlabel('GRE Score')
plt.ylabel('CGPA')
plt.show()
```





In [13]:

```
plt.scatter(admission['CGPA'],admission['SOP'])
plt.title('SOP for CGPA')
plt.xlabel('CGPA')
plt.ylabel('SOP')
plt.show()
```

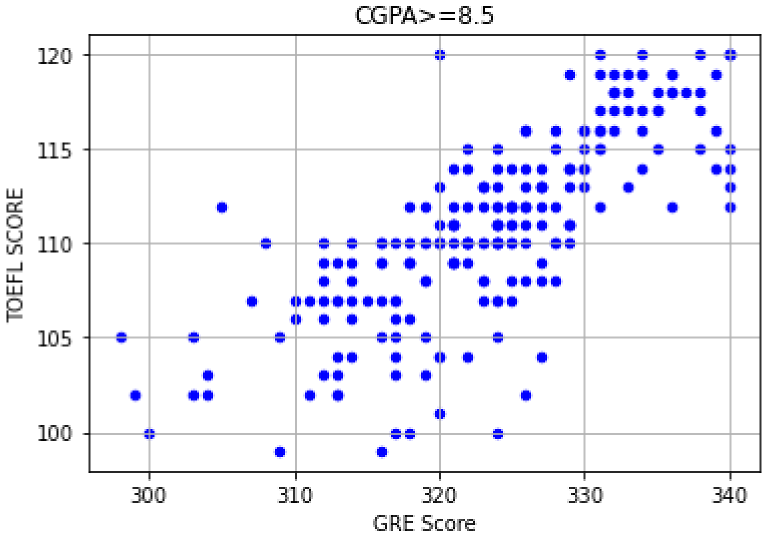


In [14]:

```
admission[admission.CGPA >= 8.5].plot(kind='scatter', x='GRE Score', y='TOEFL Score',color="BLUE")
```

```python
plt.xlabel("GRE Score")
plt.ylabel("TOEFL SCORE")
plt.title("CGPA>=8.5")
plt.grid(True)

plt.show()
```

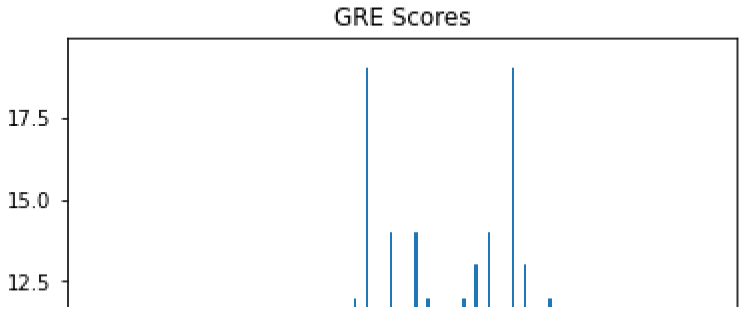


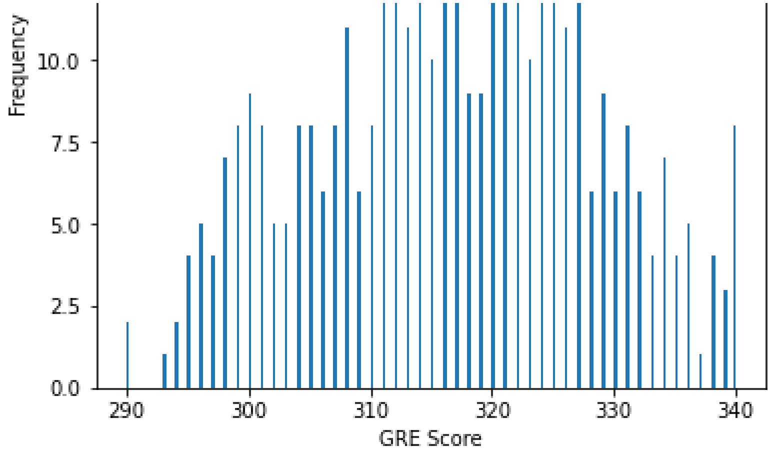
In [15]:

```python
admission["GRE Score"].plot(kind = 'hist',bins = 200,figsize = (6,6))

plt.title("GRE Scores")
plt.xlabel("GRE Score")
plt.ylabel("Frequency")

plt.show()
```



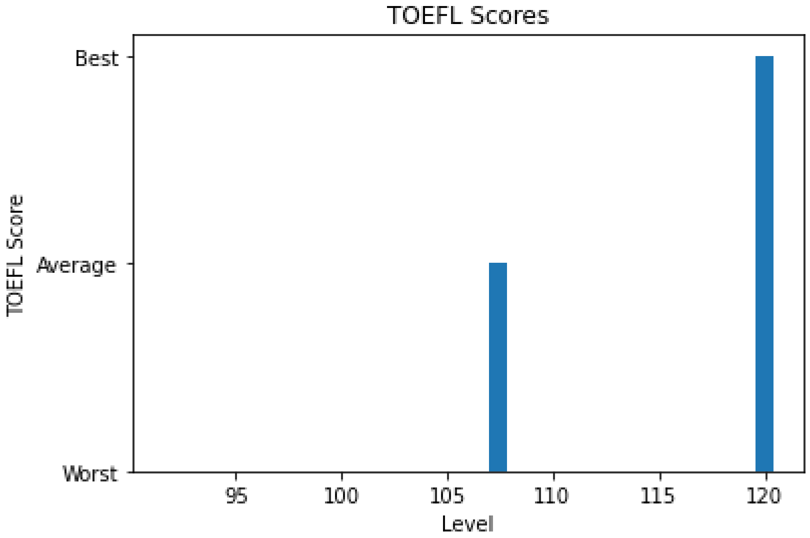


In [16]:

```
p = np.array([admission["TOEFL Score"].min(),admission["TOEFL Score"].mean(),admission["TOEFL Score"].max()])
r = ["Worst","Average","Best"]
plt.bar(p,r)

plt.title("TOEFL Scores")
plt.xlabel("Level")
plt.ylabel("TOEFL Score")

plt.show()
```

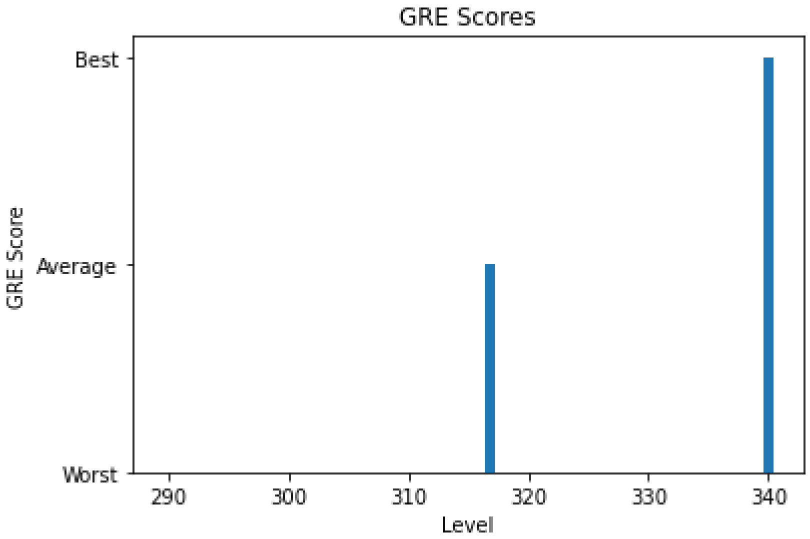


In [17]:

```
g = np.array([admission["GRE Score"].min(),admission["GRE Score"].mean(),admission["GRE Score"].max()])
h = ["Worst","Average","Best"]
plt.bar(g,h)

plt.title("GRE Scores")
plt.xlabel("Level")
plt.ylabel("GRE Score")

plt.show()
```



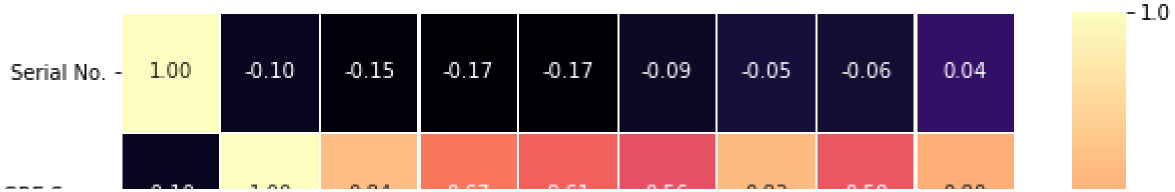
In [21]:

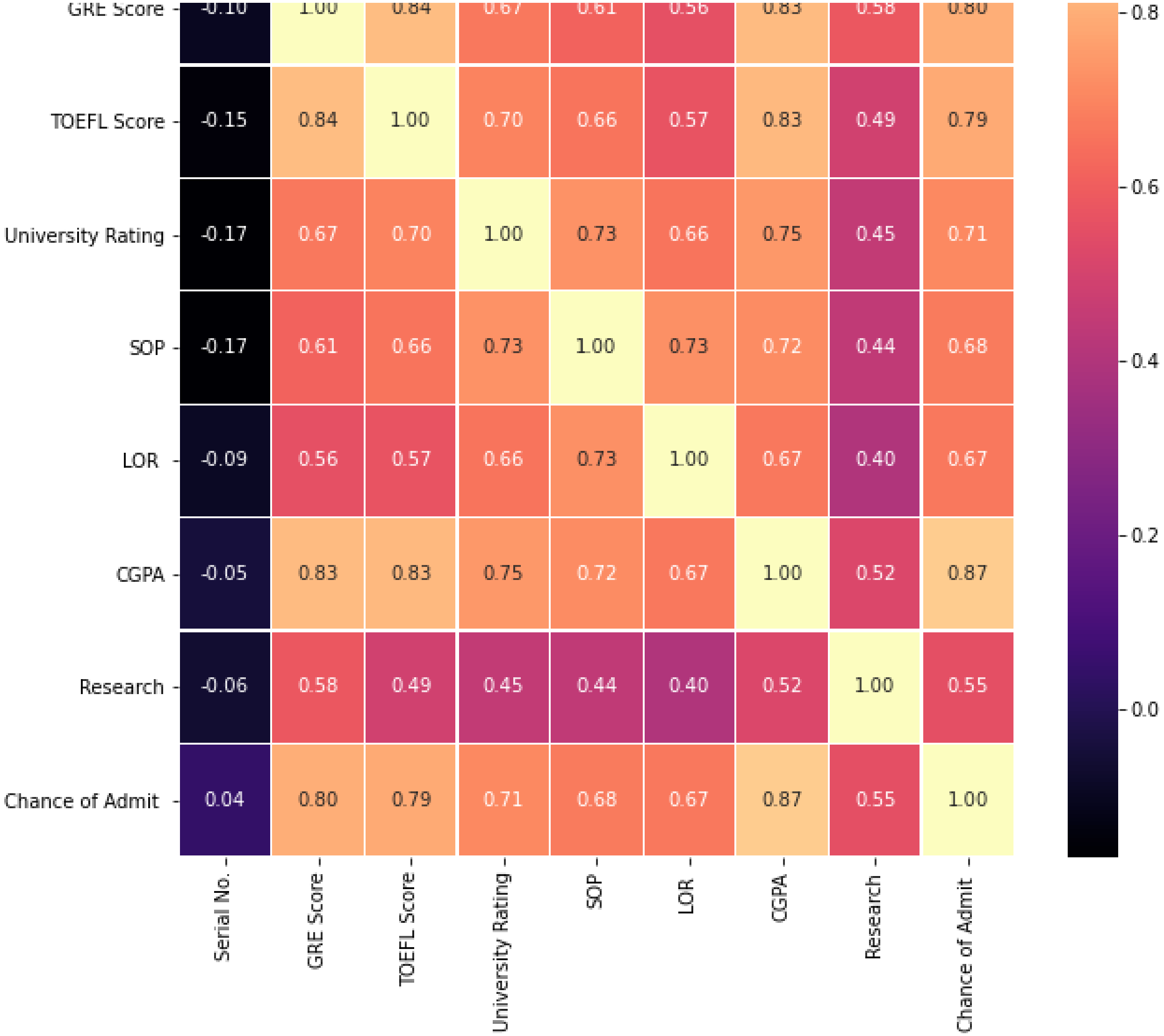
```
import seaborn as sns

plt.figure(figsize=(10, 10))

sns.heatmap(admission.corr(), annot=True, linewidths=0.05, fmt= '.2f',cmap="magma")

plt.show()
```



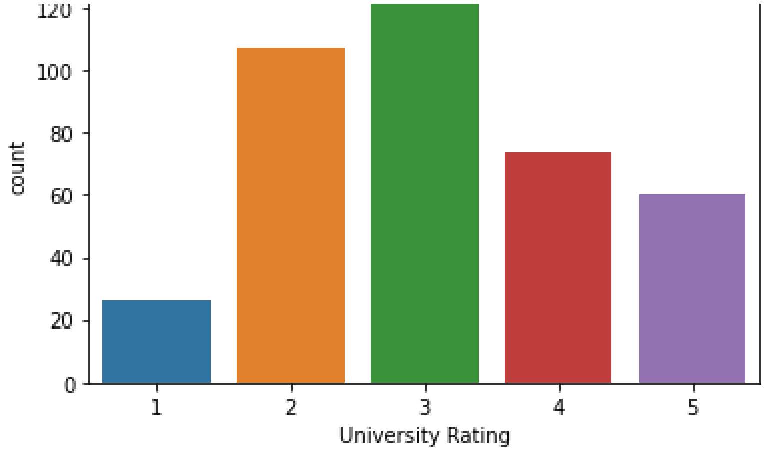


In [22]:

```
admission.Research.value_counts()

sns.countplot(x="University Rating",data=admission)
```

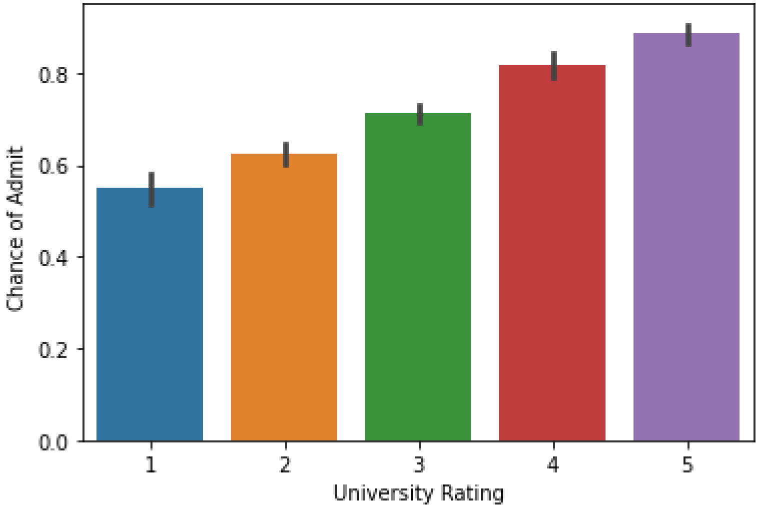
Out[22]:



In [24]:

```
sns.barplot(x="University Rating", y="Chance of Admit ", data=admission)
```

Out[24]:



In [ ]: