```
import pandas as pd
import seaborn as sns
!pip install -U imbalanced-learn
```

```
Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/simple/
Requirement already satisfied: imbalanced-learn in /usr/local/lib/python3.8/dist-packages (0.10.1)
Requirement already satisfied: joblib>=1.1.1 in /usr/local/lib/python3.8/dist-packages (from imbalanced-learn) (1.2.0)
Requirement already satisfied: numpy>=1.17.3 in /usr/local/lib/python3.8/dist-packages (from imbalanced-learn) (1.22.4)
Requirement already satisfied: scipy>=1.3.2 in /usr/local/lib/python3.8/dist-packages (from imbalanced-learn) (1.10.1)
Requirement already satisfied: scikit-learn>=1.0.2 in /usr/local/lib/python3.8/dist-packages (from imbalanced-learn) (1.2.1)
Requirement already satisfied: threadpoolctl>=2.0.0 in /usr/local/lib/python3.8/dist-packages (from imbalanced-learn) (3.1.0)
```

```
df = pd.read_excel("Admission_St.xlsx")
df.head()
```

	Admit	GRE	GPA	RANK
0	0	380	3.61	3
1	1	660	3.67	3
2	1	800	4.00	1
3	1	640	3.19	4
4	0	520	2.93	4

```
X=df.iloc[:,1:4]
Y=df.iloc[:,0:1]
Y.value_counts()
```

```
Admit
0        273
1        127
dtype: int64
```

```
from sklearn.model_selection import train_test_split
X_train,X_test,Y_train,Y_test=train_test_split(X,Y,test_size=0.3,random_state=0)
```

```
from imblearn.over_sampling import RandomOverSampler
ros=RandomOverSampler()
X_ros,Y_ros=ros.fit_resample(X_train,Y_train)
Y_ros.value_counts()
```

```
Admit
0        191
1        191
dtype: int64
```

```
from imblearn.under_sampling import RandomUnderSampler
rus=RandomUnderSampler()
X_rus,Y_rus=rus.fit_resample(X_train,Y_train)
Y_rus.value_counts()
```

```
Admit
0        89
1        89
dtype: int64
```

```
from imblearn.over_sampling import SMOTE
X_smote,Y_smote=SMOTE(k_neighbors=3).fit_resample(X_train,Y_train)
Y_smote.value_counts()
```

```
Admit
0        191
1        191
dtype: int64
```