import the required libraries

In [2]:

```
import numpy as np
import pandas as pd
```

references

https://www.geeksforgeeks.org/python-minimum-value-keys-in-dictionary/ (https://www.geeksforgeeks.org/python-minimum-value-keys-in-dictionary/)

read the dataset and print highlevel stats

In [16]:

```
c_csv=pd.read_csv('5_c.csv')
c_csv.head(10)
c_csv.describe()
```

Out[16]:

	y	prob
0	0	0.458521
1	0	0.505037
2	0	0.418652
3	0	0.412057
4	0	0.375579
5	0	0.595387
6	0	0.370288
7	0	0.299273
8	0	0.297000
9	0	0.266479

compute A(custom metric) and also return the threshold value which gives lowest A score.

In [20]:

```
dict={}
from tqdm import tqdm
#a_csv['proba']=sorted(a_csv['proba'])
sorted_data=c_csv.sort_values('prob',ascending=True)
for threshold in tqdm(sorted_data['prob']):
    y_hat=[]
    for value in sorted_data['prob']:
        if (value<=threshold):
            y_hat.append(0.0)
        else:
            y_hat.append(1.0)
    sorted_data['y_pred']=y_hat

    for k in c_csv:
        fp = (((sorted_data['y'])==0.0) & ((sorted_data['y_pred']) == 1.0)).sum()
        fn=(((sorted_data['y'])==1.0) & ((sorted_data['y_pred']) == 0.0)).sum()
        A=(500*fn)+(100*fp)
        dict[threshold]=A

val = min( dict.values())
thrhld = [key for key in dict if dict[key] == val]
print(" threshold value {} gives a minimum A value of {}  ".format(thrhld,val))
```

```
100%|██████████████████████████████████████████████████████████████████
████████| 2852/2852 [00:11<00:00, 251.54it/s]

 threshold value [0.22987164436159915] gives a minimum A value of 141000
```