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Assignment-5

In [2]:
```
#q1
count=0
vowels=['a','e','i','o','u','A','E','I','O','U']
with open('q1.txt') as f:
    contents =f.read()
    for i in contents:
        if i in vowels:
            count=count+1
print(count)
f.close()
```

```
18
```

In [3]:
```
#q2

with open(r'q1.txt','r') as fr:
    with open(r'q2.txt','w') as fw:
        fw.write(fr.read()[::2])
```

In [4]:
```
#q3
with open(r'q1.txt','r') as fr:
    with open(r'q3.txt','w') as fw:
        s=""
        data=fr.readlines()[::2]
        s=s.join(data)
        # print(data)
```

```
        print(s)
        fw.write(s)
```

```
Hi my name is Yashmin Singla.
I m doing Btech
I love dancing ,reading
```

In [6]:

```
#q4


with open(r'q1.txt','r') as fr:
    with open(r'q4.txt','w') as fw:
        s=""
        data=fr.readlines()
        for l in data:
            if len(l)>50:
                fw.write(l)
```

In [7]:

```
#q5

from collections import Counter
with open(r'q5.txt','r') as fr:
    data=fr.read()
    res=Counter(data)
    print(f"count of all character is: {res}")
```

```
count of all character is: Counter({'a': 7, 'i': 5, ' ': 5, '\n': 4, 'h': 3, 'r': 3, 's': 3, 'n': 3, 'm': 2, '5': 2,
'9': 2, '4': 2, '8': 1, 'j': 1, 'l': 1, '3': 1, 'y': 1, '7': 1, '6': 1, 'd': 1})
```

In [8]:

```
# q6
import pandas as pd
url= 'https://archive.ics.uci.edu/ml/machine-learning-databases/iris/iris.data'
data=pd.read_csv(url)
print(data)
cl=len(data.columns)
print(cl)
rl=len(data.index)
print(rl)
```

```python
def cal_med(medi):
    medi.sort()
    n=len(medi)
    ind=n//2
    if(n%2!=0):
        return medi[ind]
    return (medi[ind-1]+medi[ind])/2

for i in range(cl-1):
    mean=0
    median=0
    medi=[]
    sd=0
    for j in range(rl):
        mean+=data.iloc[j,i]
        medi.append(data.iloc[j,i])

    for j in range(rl):
        sd+=(data.iloc[j,i]-mean)**2

    mean/=rl
    print(f"mean of col {i} is {mean}")
    median=cal_med(medi)
    print(f"median of col {i} is {median}")
    sd/=rl
    sd=sd**0.5
    print(f"Standard Deviation of col {i} is {sd}")
```

```
     5.1  3.5  1.4  0.2     Iris-setosa
0    4.9  3.0  1.4  0.2     Iris-setosa
1    4.7  3.2  1.3  0.2     Iris-setosa
2    4.6  3.1  1.5  0.2     Iris-setosa
3    5.0  3.6  1.4  0.2     Iris-setosa
4    5.4  3.9  1.7  0.4     Iris-setosa
..   ...  ...  ...  ...             ...
144  6.7  3.0  5.2  2.3  Iris-virginica
145  6.3  2.5  5.0  1.9  Iris-virginica
146  6.5  3.0  5.2  2.0  Iris-virginica
147  6.2  3.4  5.4  2.3  Iris-virginica
148  5.9  3.0  5.1  1.8  Iris-virginica

[149 rows x 5 columns]
5
```

```
149
mean of col 0 is 5.848322147651008
median of col 0 is 5.8
Standard Deviation of col 0 is 865.5520717976991
mean of col 1 is 3.051006711409397
median of col 1 is 3.0
Standard Deviation of col 1 is 451.5491999771453
mean of col 2 is 3.7744966442953043
median of col 2 is 4.4
Standard Deviation of col 2 is 558.6282561691669
mean of col 3 is 1.2053691275167793
median of col 3 is 1.3
Standard Deviation of col 3 is 178.39624435508733
```

In [ ]: