# Data Analysis and Visualisation Practical 8

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```
In [1]:   1  import numpy as np
          2  import pandas as pd
          3  data={
          4      "Name":["Shah","Vats","Vats","Kumar","Vats","Kumar","Shah","Shah","Kur
          5      "Gender":["Male","Male","Female","Female","Female","Male","Male","Fema
          6      "Salary":[114000.00,65000.00,43150.00,69500.00,155000.00,103000.00,55(
          7  }
          8  frame=pd.DataFrame(data)
          9  frame
```

Out[1]:

|   | Name | Gender | Salary |
|---|------|--------|--------|
| 0 | Shah | Male | 114000.0 |
| 1 | Vats | Male | 65000.0 |
| 2 | Vats | Female | 43150.0 |
| 3 | Kumar | Female | 69500.0 |
| 4 | Vats | Female | 155000.0 |
| 5 | Kumar | Male | 103000.0 |
| 6 | Shah | Male | 55000.0 |
| 7 | Shah | Female | 112400.0 |
| 8 | Kumar | Female | 81030.0 |
| 9 | Vats | Male | 71900.0 |

a)Calculate and display family wise gross monthly income

```
In [2]:   1  grp=frame.groupby("Name")
          2  grp.apply(sum).Salary
```

Out[2]:  Name
         Kumar     253530.0
         Shah      281400.0
         Vats      335050.0
         Name: Salary, dtype: float64

b)Calculate and display the member with the highest monthly income in a family

In [4]: `1 grp.max()`

Out[4]:

| Name | Gender | Salary |
|------|--------|--------|
| Kumar | Male | 103000.0 |
| Shah | Male | 114000.0 |
| Vats | Male | 155000.0 |

c)Calculate and display monthly income of all members with income greater than Rs. 60000.00.

In [5]: `1 frame[frame.Salary>60000]`

Out[5]:

| | Name | Gender | Salary |
|---|------|--------|--------|
| 0 | Shah | Male | 114000.0 |
| 1 | Vats | Male | 65000.0 |
| 3 | Kumar | Female | 69500.0 |
| 4 | Vats | Female | 155000.0 |
| 5 | Kumar | Male | 103000.0 |
| 7 | Shah | Female | 112400.0 |
| 8 | Kumar | Female | 81030.0 |
| 9 | Vats | Male | 71900.0 |

d)Calculate and display the average monthly income of the female members in the Shah family.

In [7]:
```
1 f=frame.loc[frame["Name"]=="Shah"]
2 f2=f.loc[f["Gender"]=="Female"]
3 f2.mean(numeric_only=True)
```

Out[7]: Salary     112400.0
        dtype: float64