

Practical No. 06

Aim : To perform and analysis of ANOVA parametric Test

In [6]:

```
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#Section : B  
#Subject : PE-II
```

In [8]:

```
age=[10,20,35,50,28,40,55,18,16,55,30,25,43,18,30,28,14,24,16,17,32,35,26,27,65,18,43,23
```

In [10]:

```
len(age)
```

Out[10]:

56

In [12]:

```
import numpy as np  
sample_size=10  
age_sample=np.random.choice(age,sample_size)
```

In [14]:

```
import scipy.stats
```

In [16]:

```
data1 = [0.0842, 0.0368, 0.0847, 0.0935, 0.0376, 0.0963, 0.0684,  
0.0758, 0.0854, 0.0855]  
data2 = [0.0785, 0.0845, 0.0758, 0.0853, 0.0946, 0.0785, 0.0853,  
0.0685]  
data3 = [0.0864, 0.2522, 0.0894, 0.2724, 0.0853, 0.1367, 0.853]
```

In [18]:

```
f_test, p_val = scipy.stats.f_oneway(data1, data2, data3)  
print("p-value is: ", p_val)
```

p-value is: 0.04043792126789144

In [20]:

```
if p_val < 0.05:  
    print(" We can reject the null hypothesis")  
else:  
    print("We can accept the null hypothesis")
```

We can reject the null hypothesis

In [22]:

```
variance = np.var(data1)  
print(variance)
```

0.00040949560000000005

In [24]:

```
variance2 = np.var(data2)  
print(variance2)
```

5.3606874999999995e-05

In [26]:

```
variance3 = np.var(data3)  
print(variance3)
```

0.06522053346938775