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In [11]: #Name:Khushi Chandrashekhar Satpute
        #Aim :To perform and Analysis of ANOVA parametric test
        #Roll no: 43
        #Section: B
        #Subject: ET-II

In [13]: ages=[10,20,35,50,28,40,55,18,16,55,30,25,43,18,30,28,14,24,16,17,32,35,26,27,65,18,43,23,21,20,19,70,80,81,82,

In [15]: len(ages)

Out[15]: 56

In [17]: import numpy as np

In [19]: sample_size=10
        age_sample=np.random.choice(ages,sample_size)

In [21]: # Python program to implement One-Way f-test
        # Importing the required libraries
        import scipy.stats
        import numpy as np

In [23]: # Creating sample data
        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 [25]: # Performing the F-Test
        f_test, p_val = scipy.stats.f_oneway(data1, data2, data3)
        print("p-value is: ", p_val)

p-value is: 0.04043792126789144

In [27]: # taking the threshold value as 0.05 or 5%
        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 [29]: variance1 = np.var(data1)

In [31]: print(variance1)

0.00040949560000000005

In [33]: variance2 = np.var(data2)

In [35]: print(variance2)

5.3606874999999995e-05

In [37]: variance3 = np.var(data3)
        print(variance3)

0.06522053346938775

In [ ]:

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