**US ARREST ANALYSIS**

**Summary statistics**

|  |  |
| --- | --- |
| **Murder** | **Assault** |
| **Min. : 0.800** | **Min. : 45.0** |
| **1st Qu.: 4.075** | **1st Qu.:109.0** |
| **Median : 7.250** | **Median :159.0** |
| **Mean : 7.788** | **Mean :170.8** |
| **3rd Qu.:11.250** | **3rd Qu.:249.0** |
| **Max. :17.400** | **Max. :337.0** |

**RELATIONSHIP BETWEEN MURDER AND ASSAULT TEST**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | ***Estimate*** | ***Std. Error*** | ***t value*** | ***Pr(>|t|)*** |  |
| **(Intercept)** | **0.631683** | **0.854776** | **0.739** | **0.464** |  |
| **Assault** | **0.041909** | **0.004507** | **9.298** | **2.60E-12** | **\*\*\*** |

This shows that there is significance relationship in Murder and Assault since our p-value (2.60e-12) < 0.05 significance level. That is, a change in Assault will have impact on Murder

**RELATIONSHIP BETWEEN MURDER AND URBAN POP**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | ***Estimate*** | ***Std. Error*** | ***t value*** | ***Pr(>|t|)*** |  |
| **(Intercept)** | **6.41594** | **2.90669** | **2.207** | **0.0321** | **\*** |
| **UrbanPop** | **0.02093** | **0.04333** | **0.483** | **0.6312** |  |

The table above shows that there is no significance relationship between Murder and Urban pop, that is, any changes in Urban pop will not have any impact on Murder.

**MTCARS REGRESSION ANALYSIS**

Summary statistics of Disp and HP

|  |  |
| --- | --- |
| **disp** | **hp** |
| **Min. : 71.1** | **Min. : 52.0** |
| **1st Qu.:120.8** | **1st Qu.: 96.5** |
| **Median :196.3** | **Median :123.0** |
| **Mean :230.7** | **Mean :146.7** |
| **3rd Qu.:326.0** | **3rd Qu.:180.0** |
| **Max. :472.0** | **Max. :335.0** |

**RELATIONSHIP BETWEEN DISP AND HP**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Estimate** | **Std. Error** | **t value** | **Pr(>|t|)** |  |
| **(Intercept)** | **20.9925** | **32.6066** | **0.644** | **0.525** |  |
| **hp** | **1.4298** | **0.2019** | **7.08** | **7.14E-08** | **\*\*\*** |

This shows that there is significance relationship in Disp and HP since our p-value (7.14e-08) < 0.05 significance level. That is, a change in HP will have impact on Disp