4-1 Exercise 3: JMP for Unsupervised Learning

Joel Meza

Professor Torre Roenne

March 27, 2021

DAT 220 -Fundamentals of Data Mining

Southern New Hampshire University

**Correlation:**

**Bivariate Fit of Duration by Speed**

**Calendar

Description automatically generated with low confidence**

**Multivariate**

**Correlations**

|  | **Height** | **Drop** |
| --- | --- | --- |
| Height | 1.0000 | 0.7492 |
| Drop | 0.7492 | 1.0000 |

The correlations are estimated by Row-wise method.

**Inverse Corr**

|  | **Height** | **Drop** |
| --- | --- | --- |
| Height | 2.2795 | -1.7078 |
| Drop | -1.7078 | 2.2795 |

**Partial Corr**

|  | **Height** | **Drop** |
| --- | --- | --- |
| Height | . | 0.7492 |
| Drop | 0.7492 | . |

partialed with respect to all other variables

**CI of Correlation**

| **Variable** | **by Variable** | **Correlation** | **Lower 95%** | **Upper 95%** |
| --- | --- | --- | --- | --- |
| Drop | Height | 0.7492 | 0.6320 | 0.8329 |

**Scatterplot Matrix**

Chart, scatter chart

Description automatically generated

**Pairwise Correlations**

| **Variable** | **by Variable** | **Correlation** | **Count** | **Lower 95%** | **Upper 95%** | **Signif Prob** |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Drop | Height | 0.7492 | 78 | 0.6320 | 0.8329 | <.0001\* |  |

**Nonparametric: Spearman's ρ**

| **Variable** | **by Variable** | **Spearman ρ** | **Prob>|ρ|** |  |
| --- | --- | --- | --- | --- |
| Drop | Height | 0.8042 | <.0001\* |  |

Graphical user interface, chart

Description automatically generated

In the above illustration and analysis there it’s found the variables in which we are utilizing in reference speed, duration, drop, length, duration, and height where they displayed the relevant information and average outcome in which the roller coaster was going. Although, these results display parallel performance which in prediction I can see the patterns move in the right precise direction. Overall, an engineer or architect will have better view and understanding in emphasis when roller coaster is driven to improve the performance and create other similar rides. Therefore, the length and duration were a little offset due to the current speed, where speed does make a great effect to the drop and height. From the graphs given above, they all demonstrate a direct correlation from the speed to the height and from the duration to the length.