**INFO 5810 Assignment 3**

**First step – EDA:**

Firstly, imported the first dataset into rapid miner.

The dataset has 6 attributes and 20,507 records.

1. The below image describes the attributes and their data types:

A screenshot of a computer

Description automatically generated

1. The below bar plot shows the most frequent period day is afternoon with 11,569 transactions.

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1. The below bar plot shows the items aggregated with transactions.

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A close-up of a person

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**Second Step:**

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Arranged a minimum support to 0.2 in the FP-growth operator.

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**A screenshot of a computer

Description automatically generated**After creating Association rule in the process, the result is in the below table:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Premises | Conclusion | Support | Confidence | LaPlace | Gain | p-s | Lift | Conviction |
| Coffee | Bread | 0.388378 | 0.811837 | 0.939112 | -0.56841 | 0.066517 | 1.206665 | 1.738951 |
| Coffee, Cake | Bread | 0.044691 | 0.816602 | 0.990484 | -0.06476 | 0.00787 | 1.213747 | 1.784131 |
| Coffee, Tea | Bread | 0.042472 | 0.851695 | 0.992956 | -0.05726 | 0.008921 | 1.265906 | 2.2063 |

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From rule 3 the confidence for {coffee,cake} 🡪 {Bread} is 0.817.

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