Aphyba Yasmine Assanvo

Assignment 2

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|  | **Summary** | |  |  |
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|  |  | **Metric** | **Value** |  |
|  |  | **# Transactions** | 1000 |  |
|  |  | **# Items** | 20 |  |
|  |  | **# Rules** | 581 |  |
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| **Rules** | |  | |  | |  | |  | |  | |  | |  | |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  | | **Rule ID** | **A-Support** | **C-Support** | **Support** | **Confidence** | **Lift-Ratio** | **Antecedent** | **Consequent** | | **Rule 1** | 390 | 485 | 244 | 62.56410256 | 1.2899815 | [prosciutto] | [tuna] | | **Rule 2** | 485 | 390 | 244 | 50.30927835 | 1.2899815 | [tuna] | [prosciutto] | | **Rule 3** | 390 | 472 | 236 | 60.51282051 | 1.28205128 | [prosciutto] | [olives] | | **Rule 4** | 472 | 390 | 236 | 50 | 1.28205128 | [olives] | [prosciutto] | | **Rule 5** | 305 | 390 | 160 | 52.45901639 | 1.34510298 | [ham] | [prosciutto] | | **Rule 6** | 226 | 390 | 132 | 58.40707965 | 1.49761743 | [steak] | [prosciutto] | | **Rule 7** | 485 | 472 | 255 | 52.57731959 | 1.11392626 | [tuna] | [olives] | | **Rule 8** | 472 | 485 | 255 | 54.02542373 | 1.11392626 | [olives] | [tuna] | | **Rule 9** | 283 | 485 | 150 | 53.00353357 | 1.09285636 | [turkey] | [tuna] | | **Rule 10** | 305 | 485 | 160 | 52.45901639 | 1.0816292 | [ham] | [tuna] | | **Rule 11** | 485 | 392 | 249 | 51.34020619 | 1.30969914 | [tuna] | [risotto] | | **Rule 12** | 392 | 485 | 249 | 63.52040816 | 1.30969914 | [risotto] | [tuna] | | **Rule 13** | 318 | 485 | 174 | 54.71698113 | 1.12818518 | [soda] | [tuna] | | **Rule 14** | 485 | 599 | 287 | 59.17525773 | 0.9879008 | [tuna] | [peroni] | | **Rule 15** | 305 | 485 | 157 | 51.47540984 | 1.06134866 | [hummus] | [tuna] | |  | |  | |  | |  | |  | |  | |  | |  | |  |  |
| 581 rules satisfy this criterion.   |  |  |  |  | | --- | --- | --- | --- | | **Summary** | |  |  | |  |  |  |  | |  | **Metric** | **Value** |  | |  | **# Transactions** | 1000 |  | |  | **# Items** | 20 |  | |  | **# Rules** | 10 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  | Rules |  |  |  |  |  |  | | **Rule ID** | **A-Support** | **C-Support** | **Support** | **Confidence** | **Lift-Ratio** | **Antecedent** | **Consequent** | | **Rule 1** | 485 | 472 | 255 | 52.57731959 | 1.11392626 | [tuna] | [olives] | | **Rule 2** | 472 | 485 | 255 | 54.02542373 | 1.11392626 | [olives] | [tuna] | | **Rule 3** | 485 | 599 | 287 | 59.17525773 | 0.9879008 | [tuna] | [peroni] | | **Rule 4** | 392 | 599 | 261 | 66.58163265 | 1.11154645 | [risotto] | [peroni] | | **Rule 5** | 318 | 488 | 251 | 78.93081761 | 1.61743479 | [soda] | [crackers] | | **Rule 6** | 488 | 318 | 251 | 51.43442623 | 1.61743479 | [crackers] | [soda] | | **Rule 7** | 318 | 599 | 257 | 80.81761006 | 1.34920885 | [soda] | [peroni] | | **Rule 8** | 488 | 599 | 366 | 75 | 1.25208681 | [crackers] | [peroni] | | **Rule 9** | 599 | 488 | 366 | 61.10183639 | 1.25208681 | [peroni] | [crackers] | | **Rule 10** | 305 | 599 | 252 | 82.62295082 | 1.37934809 | [hummus] | [peroni] | |  | |
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| 10 rules satisfy this criterion.  The grocery store may want to increase the minimum support required for their analysis to avoid inexplicable rules capturing random noise in the data. Also, because higher support can lead to more reliable result in the association rules. |  | |
| The risk is that some uncommon items might not have rules   1. The rule with le largest lift ratio that also involves an Italian item is the rule number 10. According to that rule, if a customer purchase hummus, then that customer is likely to purchase peroni. 2. The confidence of the largest lift ration is about 82.3 which means among the 305 transactions containing purchase of hummus, 82 percent of them also contained peroni. 3. The lift ratio is about 1.38 which means that a customer who has purchase hummus is 38 percent more likely to also purchase peroni than a randomly selected customer. 4. Most Italian fare purchased are associated with the purchase of soda, tuna, crackers, humus.   Although that store offers a variety of Italian fare, the most frequent buy is the peroni based on a minimum support of 250 transactions. |  | |
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