**Quiz 9 - Association Rules**

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| **Question 1**  The support for the 1-itemset {bread} will always be more than or equal to the support for the 2-itemset {bread, jam}. True or False? | |
| A | True |
| B | False |

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| **Question 2**  Given that the itemset {bread, jam} is frequent, which of the following itemsets is also frequent? Select all that apply. | |
| A | {bread} |
| B | {bread, jam, eggs} |
| C | {eggs} |
| D | {jam} |

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| **Question 3**  Which is the correct formula for the leverage of a rule X -> Y ( i.e. Leverage( X -> Y) ) ? | |
| A | Support( X ^ Y ) / Support(X) |
| B | Support( X ^ Y ) - Support(X) \* Support(Y) |
| C | Support( X ^ Y ) / ( Support(X) \* Support(Y) ) |
| D | None of the above |

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| **Question 4**  Refer to the following picture taken from Topic 9 lecture notes page 47 on the top 10 frequent 1-itemsets sorted by their support within the Groceries data set:  A computer screen shot of a number  AI-generated content may be incorrect.  The minimum support threshold used to determine the frequent 1-itemsets is 0.02 as seen in the lecture. How many 1-itemsets would be considered frequent if the minimum support threshold was increased to 0.1? | |
| A | 2 |
| B | 6 |
| C | 7 |
| D | 8 |

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| **Question 5**  Refer to the picture below taken from Topic 9 lecture notes page 65 on the graph for the top 5 rules with the highest Lift within the Groceries data set:  **A diagram of food items  AI-generated content may be incorrect.**  Which rule has the highest **Support**? | |
| A | { ham, processed cheese} -> { white bread } |
| B | { Instant food products, soda } -> { hamburger meat } |
| C | { hamburger meat, whipped/sour cream, yogurt ) -> { butter } |
| D | { white bread, other vegetables, tropical fruit, yogurt } -> { butter } |