**Question 1 :-**

Firstly construct your first candidate C1 for 1-itemset versus the support count of each 1-itemset. This will be as follows (join step):

|  |  |
| --- | --- |
| item | Support\_count |
| HotDogs | 4 |
| Buns | 2 |
| Ketchup | 2 |
| coke | 3 |
| Chips | 4 |

Now discard all itemsets that has support count less than minsup (=2) to generate a new table after discarding .

|  |  |
| --- | --- |
| itemset | Support\_count |
| HotDogs | 4 |
| Buns | 2 |
| Ketchup | 2 |
| coke | 3 |
| Chips | 4 |

Now create the next candidateC2 which is 2-itemset from all combinations of the last table we reached in the previous step after discarding (join step).

|  |  |
| --- | --- |
| itemset | Support\_count |
| HotDogs , Buns | 2 |
| HotDogs , Ketchup | 1 ignore |
| HotDogs , coke | 2 |
| HotDogs , Chips | 2 |
| Buns , Ketchup | 1 ignore |
| Buns , coke | 0 ignore |
| Buns , chips | 0 ignore |
| Ketchup , coke | 0 ignore |
| Ketchup , chips | 1 ignore |
| Coke , chips | 3 |

Now we discard all 2-itemsets that has support count less than minsup (=2):

|  |  |
| --- | --- |
| itemset | Support\_count |
| HotDogs , Buns | 2 |
| HotDogs , coke | 2 |
| HotDogs , Chips | 2 |
| Coke , chips | 3 |

Now create the next candidateC3 which is 3-itemset from all combinations of the last table we reached in the previous step after discarding (join step):

|  |  |
| --- | --- |
| itemset | Support\_count |
| HotDogs , Buns , coke | 0 |
| HotDogs , Buns , chip | 0 |
| HotDogs , coke , chips | 2 |
| Coke , chips , Buns | 0 |

now, we will end with having the most frequent itemset for our dataset which

is { HotDogs , coke , chips }.

**Question 2 :-**

Min\_sup 60% (3/5)

**C1**

|  |  |
| --- | --- |
| itemset | Support |
| A | 3/5 |
| B | 3/5 |
| C | 2/5 |
| D | 5/5 |
| E | 4/5 |
| F | 3/5 |

**L1**

|  |  |
| --- | --- |
| item | Support |
| A | 3/5 |
| B | 3/5 |
| D | 5/5 |
| E | 4/5 |
| F | 3/5 |

**C2**

|  |  |
| --- | --- |
| **item** | **Support** |
| A,B | 1/5 |
| A,D | 3/5 |
| A,E | 2/5 |
| A,F | 2/5 |
| B,D | 3/5 |
| B,E | 3/5 |
| B,F | 2/5 |
| D,E | 4/5 |
| D,F | 3/5 |
| E,F | 2/5 |

**L2**

|  |  |
| --- | --- |
| **item** | **Support** |
| A,D | 3/5 |
| B,D | 3/5 |
| B,E | 3/5 |
| D,E | 4/5 |
| D,F | 3/5 |

**C3**

|  |  |
| --- | --- |
| **item** | **Support** |
| A,D,B | 1/5 |
| A,D,E | 2/5 |
| A,D,F | 2/5 |
| B,D,E | 3/5 |
| B,D,F | 2/5 |
| A,B,E | 1/5 |
| D,E,F | 2/5 |
| B,E,F | 2/5 |

**L3**

|  |  |
| --- | --- |
| **item** | **Support** |
| B,D,E | 3/5 |