

**Due Date: See Webcampus**  
**How to submit: Webcampus**

### HW5-1: Association Rule

Consider the transactions in Table 1. Let minimum support and minimum confidence be 50% and 30%, respectively.

Table 1.

ID	bought
001	{Q, W, T, R}
002	{T, W, Y, E, R}
003	{Y, W, R, E}
004	{W, T, Y}
005	{Q, E, R}
006	{Q, W, T}

- Using Apriori algorithm, find frequent itemsets.
- List all rules in the form  $X, Y \rightarrow Z$ , meaning that if someone buys  $X$  and  $Y$ , then he/she will also buy  $Z$ . List the support and confidence of matching rules.

### HW5-2.

- Enumerate all 3-itemsets for transactions 32456, 489542, 52, 9999
- Given a hash tree and a hash function shown below and max-bucket size = 3, use them to do the following: hash three 3-itemsets (138) (385) and (456) into the given hash tree. You need to show subtrees that are affected by the hashing of three 3-itemsets.

