**Assignment 9**

Write a java code which takes a decision table as input (input.txt) and produce its decision tree as output (output.txt).

Example:-

If you are a new customer and you want to open a credit card account then there are three conditions first you will get a 15% discount on all your purchases today, second if you are an existing customer and you hold a loyalty card, you get a 10% discount and third if you have a coupon, you can get 20% off today (but it can’t be used with the ‘new customer’ discount). Discount amounts are added, if applicable.

**Input (input file contains that table ‘input.txt’ ):-**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Condition | Rule1 | Rule 2 | Rule3 | Rule4 | Rule5 | Rule6 | Rule7 | Rule8 |
| New Customer (15%) | Y | Y | Y | Y | N | N | N | N |
| Loyalty Customer (10%) | Y | Y | N | N | Y | Y | N | N |
| Coupon | Y | N | Y | N | Y | N | Y | N |
| Actions |  |  |  |  |  |  |  |  |
| Discount | X | X | 20 | 15 | 30 | 10 | 20 | 0 |

**Output (**Output is in below format ‘output.txt’)

Y New Customer -> Y Loyalty Customer -> Y Coupon -> X

Y New Customer -> Y Loyalty Customer -> N Coupon -> X

Y New Customer -> N Loyalty Customer -> Y Coupon -> 20

Y New Customer -> N Loyalty Customer -> N Coupon -> 15

N New Customer -> Y Loyalty Customer -> Y Coupon -> 30

N New Customer -> Y Loyalty Customer -> N Coupon -> 10

N New Customer -> N Loyalty Customer -> Y Coupon -> 20

N New Customer -> N Loyalty Customer -> N Coupon -> 0

**Note**:- Output file contains all the paths from root to leaf nodes.