Experiment :6

Problem statement:

The following training examples map descriptions of individuals onto high, medium and low credit-worthiness.

medium skiing design single twenties no -> highRisk high golf trading married forties yes -> lowRisk

low speedway transport married thirties yes -> medRisk medium football banking single thirties yes -> lowRisk high flying media married fifties yes -> highRisk

low football security single twenties no -> medRisk medium golf media single thirties yes -> medRisk

medium golf transport married forties yes -> lowRisk high skiing banking single thirties yes -> highRisk low golf unemployed married forties yes -> highRisk

Input attributes are (from left to right) income, recreation, job, status, age-group, home- owner. Find the unconditional probability of `golf' and the conditional probability of `single' given `medRisk' in the dataset?

Aim: to Find the unconditional probability of `golf' and the conditional probability of `single' given `medRisk' in the dataset

ALGORITHM:

Step1: Start

Step2: calculate the unconditional probability of golf
probGolf= numberGolfRecreation/totalRecords

Step3: Calculate the Conditional probability of single given medRisk
probMedRiskSingle=numberMedRiskSingle/totalRecords
probMedRisk=numberMedRisk/totalRecords
conditionalProbability=(probMedRiskSingle/probMedRisk)

Step 4: Print Unconditional probability of golf and Conditional probability of single given medRisk.

Step 5: Stop.

PROGRAM:

```
totalRecords=10
numberGolfRecreation=4
probGolf=numberGolfRecreation/totalRecords
print("Unconditional probability of golf: ={}".format(probGolf))
numberMedRiskSingle=2
numberMedRisk=3
probMedRiskSingle=numberMedRiskSingle/totalRecords
probMedRisk=numberMedRisk/totalRecords
conditionalProbability=(probMedRiskSingle/probMedRisk)
print("Conditional probability of single given medRisk: = {}".format(conditionalProbability))
```

OUTPUT:

```
Unconditional probability of golf: =0.4
Conditional probability of single given medRisk: = 0.6666666666666667
```

Result: The program has been executed successfully and Unconditional probability of golf, Conditional probability of single given medRisk are calculated.