**ASSIGNMENT NO.**

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CLASS: BE COMP-1 ROLL NO.: 402006

PROGRAM:

#include <iostream>

#include <string>

using namespace std;

#define size 11

int main()

{

int item[size],tx,temp,suppCnt,taken[size],taken1[size];

cout<<"\nEnter the number of transactions: \t";

cin>>tx;

int itemTx[tx][size];

for(int i=0;i<size;i++)

for(int j=0;j<tx;j++)

{

item[i]=taken[i]=taken1[i]=itemTx[j][i]=0;;

}

cout<<"\nEnter the transactions:\n";

for(int i=0;i<tx;i++)

{

cout<<"Enter for transaction "<<i+1<<"\n";

cout<<"1.Mango 2.Onion 3.Apple 4.Corn 5.Eggs 6.Chocolate 7.Nuts 8.Keychain 9.Knife 10.Jar 11.Toothbrush\n";

cout<<"Enter 0 when transaction is completed.\n";

do{

cin>>temp;

if(temp>0 &&temp<size+1)

{

itemTx[i][temp-1]=1;

item[temp-1]++;

}

}while(temp>0 &&temp<size+1);

}

string str[]={"Mango","Onion","Apple","Corn","Eggs","Chocolate","Nuts","Keychain","Knife","Jar","Toothbrush"};

cout<<"\nItem count is as follows: \n";

for(int i=0;i<size;i++)

{

cout<<str[i]<<" : "<<item[i]<<endl;

}

cout<<"\nEnter the minimum Support count:\t ";

cin>>suppCnt;

cout<<"\nItems satisfying minimum support count:\n";

for(int i=0;i<size;i++)

{

if(item[i]>=suppCnt)

{

cout<<str[i]<<" : "<<item[i]<<endl;

taken[i]=1;

}

}

cout<<"\nTwo Item Set: "<<endl;

int cnt;

for(int j=0;j<size;j++)

{

for(int k=j+1;k<size;k++)

{

if(taken[j]==1 && taken[k]==1)

{

cnt=0;

for(int i=0;i<tx;i++)

{

if(itemTx[i][k]!=0 && itemTx[i][j]!=0)

{

cnt++;

}

}

if(cnt>=suppCnt)

{

taken1[j]=taken1[k]=1;

cout<<str[j]<<" and "<<str[k]<<" : "<<cnt<<endl;

}

}

}

}

cout<<"\nThree Item Set "<<endl;

for(int j=0;j<size;j++)

{

for(int k=j+1;k<size;k++)

{

for(int l=k+1;l<size;l++)

{

if(taken1[j]==1&&taken1[k]==1&&taken1[l]==1)

{

cnt=0;

for(int i=0;i<tx;i++)

{

if(itemTx[i][j]!=0 && itemTx[i][k]!=0 && itemTx[i][l]!=0)

{

cnt++;

}

}

if(cnt>=suppCnt)

{

cout<<str[j]<<", "<<str[k]<<" and "<<str[l]<<" : "<<cnt<<endl;

}

}

}

}

}

return 0;

}