import java.io.\*;  
class apriori  
{   
public static void main(String []arg)throws IOException  
{  
int i,j,m=0;  
int t1=0;  
BufferedReader b=new BufferedReader(new InputStreamReader(System.in));  
System.out.println("Enter the number of transaction :");  
int n=Integer.parseInt(b.readLine());  
System.out.println("items :1--Milk 2--Bread 3--Coffee 4--Juice 5--Cookies 6--Jam");  
int item[][]=new int[n][6];  
for(i=0;i<n;i++)  
 for(j=0;j<6;j++)  
 item[i][j]=0;  
String[] itemlist={"MILK","BREAD","COFFEE","JUICE","COOKIES","JAM"};  
int nt[]=new int[6];  
int q[]=new int[6];  
for(i=0;i<n;i++)  
{ System.out.println("Transaction "+(i+1)+" :");  
 for(j=0;j<6;j++)  
 { System.out.println("Is Item "+itemlist[j]+" present in this transaction(1/0)? :");  
 item[i][j]=Integer.parseInt(b.readLine());   
 }  
}  
 for(j=0;j<6;j++)   
 { for(i=0;i<n;i++)  
 {if(item[i][j]==1)  
 nt[j]=nt[j]+1;  
 }  
 System.out.println("Number of Item "+itemlist[j]+" :"+nt[j]);  
 }  
  
for(j=0;j<6;j++)  
{ if(((nt[j]/(float)n)\*100)>=50)  
 q[j]=1;  
 else  
 q[j]=0;  
  
 if(q[j]==1)  
 {t1++;  
 System.out.println("Item "+itemlist[j]+" is selected ");   
   
 }  
}  
 for(j=0;j<6;j++)   
 { for(i=0;i<n;i++)  
 {  
   
 if(q[j]==0)  
   
 item[i][j]=0;  
   
 }  
 }  
  
int nt1[][]=new int[6][6];  
 for(j=0;j<6;j++)   
 { for(m=j+1;m<6;m++)   
 { for(i=0;i<n;i++)  
 { if(item[i][j]==1 &&item[i][m]==1)  
 nt1[j][m]=nt1[j][m]+1;  
   
 }  
 if(nt1[j][m]!=0)  
 System.out.println("Number of Items of "+itemlist[j]+"& "+itemlist[m]+" :"+nt1[j][m]);  
 }  
   
 }  
for(j=0;j<6;j++)  
{ for(m=j+1;m<6;m++)   
 {  
 if(((nt1[j][m]/(float)n)\*100)>=50)  
 q[j]=1;  
 else  
 q[j]=0;  
  
 if(q[j]==1)  
   
 System.out.println("Item "+itemlist[j]+"& "+itemlist[m]+" is selected ");   
  
}  
}  
}   
}