ASSIGNMENT 6
VAIBHAV AGRAWAL
211CS162

1)

```cpp
#include<iostream>
using namespace std;
int main(){

int n,m,i,j,k;
n=3;
m=3;
int alloc[3][3]={{1,2,1},{2,0,1},{2,2,1}};
int max[3][3]={{2,2,4},{2,1,3},{3,4,1}};
int avail[3]={0,1,2};
int f[n],ans[n],ind=0;
for(k=0;k<n;k++){

f[k]=0;
}
int need[n][m];
for( i=0;i<n;i++){
  for( j=0;j<m;j++)
need[i][j]=max[i][j]-alloc[i][j];
}
int y=0;
for(k=0;k<5;k++){
for(i=0;i<n;i++){

if(f[i]==0){
int flag=0;
for(j=0;j<m;j++){
   if(need[i][j]>avail[j]){
      flag=1;
      break;
   }
}
}
if(!flag){
   ans[ind++]=i;
```

```cpp
        for(y=0;y<m;y++)
            avail[y]+=alloc[i][y];
            f[i]=1;


    }
   }
  }
 }
for(int ii=0;ii<n;ii++){
    for(int jj=0;jj<m;jj++){
        cout<<need[ii][jj]<<" ";
    }
    cout<<endl;
}
int flag=1;
for(int i=0;i<n;i++){
    if(f[i]==0){
        flag=0;
        cout<<"The given sequence is not safe"<<endl;
        break;
    }
}
if(flag){
    cout<<"Following is the safe sequence"<<endl;
        for(i=0;i<n-1;i++){
            cout<<" P"<<ans[i]<<" ->";
        }
        cout<<" P"<<ans[n-1]<<endl;
    }
    return 0;
}
```

```
y3b1@hp59-HP-EliteDesk-800-G1-TWR:~$ cd Desktop
y3b1@hp59-HP-EliteDesk-800-G1-TWR:~/Desktop$ g++ Bankers.cpp
y3b1@hp59-HP-EliteDesk-800-G1-TWR:~/Desktop$ ./a.out
1 0 3
0 1 2
1 2 0
Following is the safe sequence
 P1 -> P0 -> P2
```