

## PROGRAM CODE

```
#include<stdio.h>
#include<stdlib.h>

void bankers(int n,int m,int need[n][m],int avail[m],int
alloc[n][m])
{
    printf("\nsafe sequence=\n");
    int visit[n],count=0;
    for(int i=0;i<n;i++)
    {
        visit[i]=-1;
    }
    for(int i=0;i<n;i=(i+1)%n)
    {
        int j=0;
        count=0;
        while(j<m&&visit[i]==-1)
        {
            while(j<m&&need[i][j]<=avail[j])
            {
                j++;
                count++;
            }
            if(count==m)
            {
                printf("\nP%d is executed\n",i);
                for(int l=0;l<m;l++)
                {
                    avail[l]=avail[l]+alloc[i][l];
                }
                visit[i]=10000;
            }
            else
            {
                break;
            }
        }
        int flag=0;
        for(int k=0;k<n;k++)
        {
            if(visit[k]==-1)
            {
                flag=1;
            }
        }
    }
}
```

```

        if(flag==0)
        {
            break;
        }
    }
    printf("\navailable=");
    for(int i=0;i<m;i++)
    {
        printf("%d\t",avail[i]);
    }
}

void main()
{
    int n,m;
    printf("\nenter the number of processsoors:\n");
    scanf("%d",&n);
    printf("\nenter the number of resource type\n");
    scanf("%d",&m);
    int alloc[n][m];
    int max[n][m];
    int need[n][m];
    int avail[m];
    printf("\nenter the allocation of %d processors\n",n);
    for(int i=0;i<n;i++)
    {
        for(int j=0;j<m;j++)
        {
            scanf("%d",&alloc[i][j]);
        }
    }
    printf("\nenter the maximum of %d processors\n",n);
    for(int i=0;i<n;i++)
    {
        for(int j=0;j<m;j++)
        {
            scanf("%d",&max[i][j]);
        }
    }
    printf("\nenter the available allocation\n");
    for(int i=0;i<m;i++)
    {
        scanf("%d",&avail[i]);
    }
    for(int i=0;i<n;i++)
    {
        for(int j=0;j<m;j++)
        {

```

```

        need[i][j]=max[i][j]-alloc[i][j];
    }
}
printf("\nneed matrix:\n");
for(int i=0;i<n;i++)
{
    for(int j=0;j<m;j++)
    {
        printf("%d\t",need[i][j]);
    }
    printf("\n");
}
bankers(n,m,need,avail,alloc);
}

```

## OUTPUT

sahal@kali:~/bash\_script\$ ./a.out

enter the number of processsoors:

5

enter the number of resource type

3

enter the allocation of 5 processors

0

1

0

2

0

0

3

0

2

2

1

1

0

0

2

enter the maximum of 5 processors

7

5

3

3

2  
2  
9  
0  
2  
2  
2  
2  
4  
3  
3

enter the available allocation

3  
3  
2

need matrix:

7	4	3
1	2	2
6	0	0
0	1	1
4	3	1

safe sequence=

P1 is executed

P3 is executed

P4 is executed

P0 is executed

P2 is executed

available=10      5      7