



Academic Task – 3

CSE-316

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GitHub Link: <https://github.com/yadavNeer/pro2/upload/master>

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QUESTION NO. 24

```
#include<conio.h>
#include<stdio.h>
int main()
{
    int n;        //n number of process
    int r;        // number of resources
    int i,j,k,cnt,cntt;
    int avail[10],p[10];
    int need[10][10],alloc[10][10],max[10][10];

    printf("\nEnter number of process :");
    scanf("%d",&n);
    printf("\n Enter resources available : ");
    scanf("%d",&r);
    printf("\nEnter insatnces for resources :\n");
    for(i=0;i<r;i++)
    {   printf("R%d ",i+1);
        scanf("%d",&avail[i]);
    }
    printf("\n Enter allocation matrix  \n");
    for(i=0;i<n;i++)
    {
        printf("p%d",i+1);           p[i]=0;
        for(j=0;j<r;j++)
        {
            scanf("%d",&alloc[i][j]);
        }
    }
    printf("\n Enter MAX matrix  \n");

    for(i=0;i<n;i++)
    {
        printf("p%d",i+1);
        for(j=0;j<r;j++)
        {
            scanf("%d",&max[i][j]);
        }
    }

    for(i=0;i<n;i++)
    {
        printf("\np%d\t",i+1) ;
        for(j=0;j<r;j++)
        {
            need[i][j]=max[i][j]-alloc[i][j];
            printf("\t%d",need[i][j]);
        }
    }
}
```

```

k=0;      cntt=0;
printf("\n\n");
while(k<15)
{
for(i=0;i<n;i++)
{  cnt=0;

for(j=0;j<r;j++)
{
if(p[i]==1) break;
if(need[i][j]<=avail[j])
{
cnt++;
}
if(cnt==r)
{
for(j=0;j<r;j++)
{
avail[j]+=alloc[i][j];
}
printf("p%d\t",i+1);  p[i]=1;      cntt++;
}
}
} k++;
}
if(cntt<n-1)
{
printf("\n deadlock ");
}
    getch();
}

```