14.OPTIMAL(page replacement algorithm)

Program:

#include<stdio.h>

int main()

{

int n,pg[30],fr[10];

int count[10],i,j,k,fault,f,flag,temp,current,c,dist,max,m,cnt,p,x;

fault=0;

dist=0;

k=0;

printf("Enter the total no pages:\t");

scanf("%d",&n);

printf("Enter the sequence:");

for(i=0;i<n;i++)

scanf("%d",&pg[i]);

printf("\nEnter frame size:");

scanf("%d",&f);

for(i=0;i<f;i++)

{

count[i]=0;

fr[i]=-1;

}

for(i=0;i<n;i++)

{

flag=0;

temp=pg[i];

for(j=0;j<f;j++)

{

if(temp==fr[j])

{

flag=1;

break;

}

}

if((flag==0)&&(k<f))

{

fault++;

fr[k]=temp;

k++;

}

else if((flag==0)&&(k==f))

{

fault++;

for(cnt=0;cnt<f;cnt++)

{

current=fr[cnt];

for(c=i;c<n;c++)

{

if(current!=pg[c])

count[cnt]++;

else

break;

}

}

max=0;

for(m=0;m<f;m++)

{

if(count[m]>max)

{

max=count[m];

p=m;

}

}

fr[p]=temp;

}

printf("\npage %d frame\t",pg[i]);

for(x=0;x<f;x++)

{

printf("%d\t",fr[x]);

}

}

printf("\nTotal number of faults=%d",fault);

return 0;

}

Output