**LRU**

#include<stdio.h>

main()

{

int q[20],p[50],c=0,c1,d,f,i,j,k=0,n,r,t,b[20],c2[20];

printf("Enter no of pages:");

scanf("%d",&n);

printf("Enter the reference string:");

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

            scanf("%d",&p[i]);

printf("Enter no of frames:");

scanf("%d",&f);

q[k]=p[k];

printf("\n\t%d\n",q[k]);

c++;

k++;

for(i=1;i<n;i++)

            {

                        c1=0;

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

                        {

                                    if(p[i]!=q[j])

                                    c1++;

                        }

                        if(c1==f)

                        {

                                    c++;

                                    if(k<f)

                                    {

                                                q[k]=p[i];

                                                k++;

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

                                                printf("\t%d",q[j]);

                                                printf("\n");

                                    }

                                    else

                                    {

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

                                                {

                                                            c2[r]=0;

                                                            for(j=i-1;j<n;j--)

                                                            {

                                                            if(q[r]!=p[j])

                                                            c2[r]++;

                                                            else

                                                            break;

                                                }

                                    }

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

                                     b[r]=c2[r];

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

                                    {

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

                                                {

                                                            if(b[r]<b[j])

                                                            {

                                                                        t=b[r];

                                                                        b[r]=b[j];

                                                                        b[j]=t;

                                                            }

                                                }

                                    }

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

                                    {

                                                if(c2[r]==b[0])

                                                q[r]=p[i];

                                                printf("\t%d",q[r]);

                                    }

                                    printf("\n");

                        }

            }

}

printf("\nThe no of page faults is %d",c);

}

**output**

Enter no of pages:10

Enter the reference string:7 5 9 4 3 7 9 6 2 1

Enter no of frames:3

        7

        7       5

        7       5       9

        4       5       9

        4       3       9

        4       3       7

        9       3       7

        9       6       7

        9       6       2

        1       6       2

The no of page faults is 10