

PROGRAM:

```
#include<stdio.h>

int main()
{
    int i,j,n,a[50],frame[10],no,k,avail,count=0;
    printf("\n ENTER THE NUMBER OF PAGES:\n");
    scanf("%d",&n);
    printf("ENTER THE PAGE NUMBER: \n");
    for(i=1;i<=n;i++)
    scanf("%d",&a[i]);
    printf("\n ENTER THE NUMBER OF FRAMES :");
    scanf("%d",&no);
    for(i=0;i<no;i++)
    frame[i]=-1;
    j=0;
    printf("ref string\t page frames\n ");
    for(i=1;i<=n;i++)
    {
        printf("%d\t\t",a[i]);
        avail=0;
        for(k=0;k<no;k++)
        if(frame[k]==a[i])
        avail=1;
        if(avail==0)
        {
            frame[j]=a[i];
            j=(j+1)%no;
            count++;
            for(k=0;k<no;k++)
            printf("%d\t",frame[k]);
        }
        printf("\n");
    }
    printf("NO.OF PAGE FAULTS:%d \n",count);
```

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return 0;
```

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}
```

OUTPUT:

```
ENTER THE NUMBER OF PAGES:
12
ENTER THE PAGE NUMBER:
7 0 1 2 0 3 0 4 2 3 0 3

ENTER THE NUMBER OF FRAMES :3
ref string      page frames
7              7      -1      -1
0              7      0      -1
1              7      0      1
2              2      0      1
0
3              2      3      1
0              2      3      0
4              4      3      0
2              4      2      0
3              4      2      3
0              0      2      3
3
NO.OF PAGE FAULTS:10
```

PROGRAM:

```
#include <stdio.h>
int main()
{
int i, j, k, f, max, p=10, pf=0, count[10], pageref[25], fp[10], n, flag[10];
printf("\n Enter the length of page reference string -- ");
scanf("%d",&n);
printf("\n Enter the reference string -- ");
for(i=0;i<n;i++)
    scanf("%d",&pageref[i]);
printf("\n Enter no. of frames -- ");
scanf("%d",&f);
for(i=0;i<f;i++)
{
    fp[i]=-1;
    count[i]=0;
    flag[i]=0;
}
printf("\n The Page Replacement Process is -- \n");
for(i=0;i<n;i++)
{
    for(k=0;k<f;k++)
    {
        if(count[k]==0)
        {
            fp[k]=pageref[i];
            pf++;
            count[k]=1;
            p=k;
            flag[k]=1;
            break;
        }
        else if(fp[k]==pageref[i])
        {
            count[k]=1;
            p=k;
            flag[k]=1;
            break;
        }
    }
    if(k==f)
    {
        max=0;
        for(j=0;j<f;j++)
        {
            if( count[j]>max)
            {
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                                max=count[j];
                                p=j;
                            }
                        }
                        fp[p]=pageref[i];
                        count[p]=1;
                        flag[p]=1;
                        pf++;
                    }
                    printf("Page ref is %d",pageref[i]);
                    for(j=0;j<f;j++)
                    {
if(j==p || count[j]==0)
continue;
count[j]=count[j]+1;
}
                    for(j=0;j<f;j++)
                    {
                        printf("\t%d ",fp[j]);
                    }

                    printf("Fault :%d",pf);
                    printf("\n");
                }
            printf("\n The number of Page Faults using LRU are %d",pf);
            return 0;
        }

```

OUTPUT:

```

Enter the length of page reference string -- 12
Enter the reference string -- 7 0 1 2 0 3 0 4 2 3 0 3
Enter no. of frames -- 3

The Page Replacement Process is --
Page ref is 7   7   -1   -1 Fault :1
Page ref is 0   7    0   -1 Fault :2
Page ref is 1   7    0    1 Fault :3
Page ref is 2   2    0    1 Fault :4
Page ref is 0   2    0    1 Fault :4
Page ref is 3   2    0    3 Fault :5
Page ref is 0   2    0    3 Fault :5
Page ref is 4   4    0    3 Fault :6
Page ref is 2   4    0    2 Fault :7
Page ref is 3   4    3    2 Fault :8
Page ref is 0   0    3    2 Fault :9
Page ref is 3   0    3    2 Fault :9

The number of Page Faults using LRU are 9

```

PROGRAM:

```
#include<stdio.h>
int main()
{
    int i, j, k, f, min, p, pf=0, count[10], pageref[25], fp[10], n;
    printf("\n Enter the length of page reference string -- ");
    scanf("%d",&n);
    printf("\n Enter the reference string -- ");
    for(i=0;i<n;i++)
        scanf("%d",&pageref[i]);
    printf("\n Enter no. of frames -- ");
    scanf("%d",&f);
    for(i=0;i<f;i++)
    {
        fp[i]=-1;
        count[i]=0;
    }
    printf("\n The Page Replacement Process is -- \n");
    for(i=0;i<n;i++)
    {
        for(k=0;k<f;k++)
        {
            if(fp[k]==pageref[i])
            {
                count[k]++;
                break;
            }
        }

        if(k==f)
        {
            min=100;
            for(j=0;j<f;j++)
            {
                if( count[j]<min)
                {
                    min=count[j];
                    p=j;
                }
            }
            fp[p]=pageref[i];
            count[p]=1;
            pf++;
            printf("Page Fault %d",pf);
```

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}
for(j=0;j<f;j++)
printf("\t%d",fp[j]);
printf("\n");

}
printf("\n The number of Page Faults using LFu are %d",pf);
}

```

OUTPUT:

```

Enter the length of page reference string -- 12

Enter the reference string -- 7 0 1 2 0 3 0 4 2 3 0 3

Enter no. of frames -- 3

The Page Replacement Process is --
Page Fault 1      7      -1      -1
Page Fault 2      7       0      -1
Page Fault 3      7       0       1
Page Fault 4      2       0       1
           2       0       1
Page Fault 5      3       0       1
           3       0       1
Page Fault 6      4       0       1
Page Fault 7      2       0       1
Page Fault 8      3       0       1
           3       0       1
           3       0       1

The number of Page Faults using LFu are 8

```