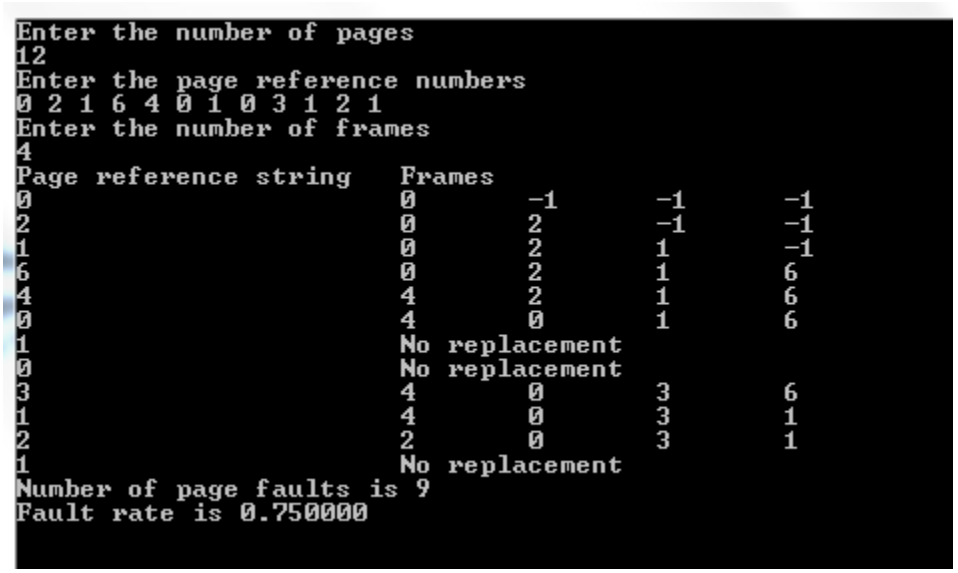
Page Replacement Algorithm

FIFO (First In First Out)

```
#include<stdio.h>
#include<conio.h>
void main()
{
	int i,j,n,page[50],frameno,frame[10],move=0,flag,count=0;
	float rate;
	printf("Enter the number of pages\n");
	scanf("%d",&n);
	printf("Enter the page reference numbers\n");
	for(i=0;i<n;i++)
	scanf("%d",&page[i]);
	printf("Enter the number of frames\n");
	scanf("%d",&frameno);
	for(i=0;i<frameno;i++)
	frame[i]=-1;
	printf("Page reference string\tFrames\n");
	for(i=0;i<n;i++)
	{
		printf("%d\t\t\t",page[i]);
		flag=0;
		for(j=0;j<frameno;j++)
		{
			if(page[i]==frame[j])
			{
				flag=1;
				printf("No replacement\n");
				break;
			}
		}
		if(flag==0)
		{
			frame[move]=page[i];
			move=(move+1)%frameno;
			count++;
			for(j=0;j<frameno;j++)
			printf("%d\t",frame[j]);
			printf("\n");
```

```
                }
        }
        rate=(float)count/(float)n;
        printf("Number of page faults is %d\n",count);
        printf("Fault rate is %f\n",rate);
        getch();
}
```

Output:



Page Replacement Algorithm
LRU (Least Recently Used)

```
#include<stdio.h>
#include<conio.h>
void print(int frameno,int frame[])
{
        int j;
        for(j=0;j<frameno;j++)
        printf("%d\t",frame[j]);
        printf("\n");
}
void main()
{
        int i,j,k,n,page[50],frameno,frame[10],move=0,flag,count=0,count1,repindex,
                check[50]={0};
        float rate;
```

```
printf("Enter the number of pages\n");
scanf("%d",&n);
printf("Enter the page reference numbers\n");
for(i=0;i<n;i++)
scanf("%d",&page[i]);
printf("Enter the number of frames\n");
scanf("%d",&frameno);
for(i=0;i<frameno;i++)
frame[i]=-1;
printf("Page reference string\tFrames\n");
for(i=0;i<n;i++)
{
        printf("%d\t\t\t",page[i]);
        flag=0;
        for(j=0;j<frameno;j++)
        {
                if(page[i]==frame[j])
                {
                        flag=1;
                        printf("No replacement\n");
                        break;
                }
        }
        if(flag==0&&count<frameno)
        {
                frame[move]=page[i];
                move=(move+1)%frameno;
                count++;
                print(frameno,frame);
        }
        else if(flag==0)
        {
                count1=0;
                for(j=i-1;j>=0;j--)
                {
                        for(k=0;k<frameno;k++)
                        {
                                if(page[j]==frame[k]&&check[page[j]]==0)
                                {
                                        check[page[j]]=1;
```

```
                                        count1++;
                                        repindex=k;
                                        k=frameno;
                                }
                        }
                        if(count1==frameno)
                        break;
                }
                frame[repindex]=page[i];
                count++;
                print(frameno,frame);
        }
        for(j=0;j<50;j++)
        check[j]=0;

    }
    rate=(float)count/(float)n;
    printf("Number of page faults is %d\n",count);
    printf("Fault rate is %f\n",rate);
    getch();;
}
```

Output: