Page replacement program

```
#include<stdio.h>
#include<stdlib.h>
int n,nf;
int ref[30];
int p[50];
int hit=0;
int i,j=0,k;
int pgfaultcnt=0;
void getData()
{
printf("Enter length of page reference
sequence:\n"); scanf("%d", &n);
printf("Enter the number of
frames:\n"); scanf("%d",&nf);
printf("Enter the page reference
sequence:\n"); for(i=0;i<n;i++)
scanf("%d",&ref[i]);
}
void initilize()
{
pgfaultcnt=0;
for(i=0;i<nf;i++)
p[i]=9999;
}
int ishit(int data)
{
hit=0;
for(j=0;j<nf;j++)
{
if(p[j]==data)
{
hit=1;
break
;
}
}
return hit;
}
void dispages()
{
for(k=0;k<nf;k++)
{
if(p[k]!=9999)
printf("%d",p[k]);
}
}
void fifo()
{
int j=0;
initilize();
printf("\tPAGE\tFRAMES\tFAULTS\n");
```

```
for(i=0;i<n;i++)
{
printf("\n\t%d\t",ref[i]);
if(ishit(ref[i])==0)
{
p[j]=ref[i];
j++;
dispages();
printf("\tpage fault %d",pgfaultcnt);
pgfaultcnt++;
}
else
{
dispages();
printf("\tNo pages fault");
}
if(j==nf)
j=0;
}
printf("\nTotal no of page faults in FIFO is %d",pgfaultcnt);
}
void lru()
{
initilize(); int
least[50];
printf("\t PAGE\tFRAMES\tFAULTS\n");
for(i=0;i<n;i++)
{
printf("\n\t%d\t",ref[i]);
if(ishit(ref[i])==0)
{
for(j=0;j<nf;j++)
{
int pg=p[j];
int found=0;
for(k=i-1;k>=0;k--)
{
if(pg==ref[k])
{
least[j]=k;
found=1;
break;
}
else
found=0;
}
if(!found)
least[j]=-
9999;
}
int min=9999;
int repindex;
for(j=0;j<nf;j++)
```

```
{
if(least[j]<min)
{
min=least[j];
repindex=j;
}
}
p[repindex]=ref[i];
dispages();
printf("\tPage fault
%d",pgfaultcnt); pgfaultcnt++;
}
else
{
dispages();
printf("\tNo page fault!");
}
}
printf("\n Total no of page faults in lru is:%d", pgfaultcnt);
}
int main()
{
int choice, yn;
do
{
printf("Page Replacement Algorithms\n");
printf("1. Enter data 2. FIFO 3.LRU
4.Exit\n"); printf("Enter your choice\n");
scanf("%d",&choice);
switch(choice)
{

case 1: getData();
        break;
case 2: fifo();
        break;
case 3: lru();
        break;
case 4: exit(0);
}
printf("\n Do you want to continue?\n If yes press 1\n If no press
0\n"); scanf("%d",&yn);
}
while(yn==1);
return(0);
}
```

OUTPUT

```
1)jss@jss:~$ cc
page.c jss@jss:~$
./a.out
Page Replacement Algorithms
```

1. Enter data 2. FIFO 3.LRU
4.Exit Enter your choice
1
Enter length of page reference
sequence: 9
Enter the number of
frames: 3
Enter the page reference
sequence: 7 0 1 3 0 2 1 3 4

Do you want to
continue? If yes press 1
If no press
0 1
Page Replacement Algorithms
1. Enter data 2. FIFO 3.LRU
4.Exit Enter your choice
2

PAGE	FRAMES	FAULTS
7	7	page fault 0
0	70	page fault 1
1	701	page fault 2
3	301	page fault 3
0	301	No pages fault
2	321	page fault 4
1	321	No pages fault
3	321	No pages fault
4	324	page fault 5

Total no of page faults in FIFO is
6 Do you want to continue?
If yes press
1 If no press
0 1
Page Replacement Algorithms
1. Enter data 2. FIFO 3.LRU
4.Exit Enter your choice
3

PAGE	FRAMES	FAULTS
7	7	Page fault 0
0	70	Page fault 1
1	701	Page fault 2
3	301	Page fault 3
0	301	No page fault!
2	302	Page fault 4
1	102	Page fault 5
3	132	Page fault 6
4	134	Page fault 7

Total no of page faults in lru
is:8 Do you want to continue?
If yes press 1

If no press
0 0

2)jss@jss:~$ cc
page.c jss@jss:~$
./a.out
Page Replacement Algorithms
1. Enter data 2. FIFO 3.LRU
4.Exit Enter your choice
1
Enter length of page reference
sequence: 20
Enter the number of
frames: 3
Enter the page reference sequence:
7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1

Do you want to
continue? If yes press 1
If no press
0 1
Page Replacement Algorithms
1. Enter data 2. FIFO 3.LRU
4.Exit Enter your choice
2

PAGE	FRAMES	FAULTS
7	7	page fault 0
0	70	page fault 1
1	701	page fault 2
2	201	page fault 3
0	201	No pages fault
3	231	page fault 4
0	230	page fault 5
4	430	page fault 6
2	420	page fault 7
3	423	page fault 8
0	023	page fault 9
3	023	No pages fault
2	023	No pages fault
1	013	page fault 10
2	012	page fault 11
0	012	No pages fault
1	012	No pages fault
7	712	page fault 12
0	702	page fault 13
1	701	page fault 14

Total no of page faults in FIFO is
15 Do you want to continue?

If yes press
1 If no press
0

1
Page Replacement Algorithms
1. Enter data 2. FIFO 3.LRU
4.Exit Enter your choice
3

PAGE	FRAMES	FAULTS
7	7	Page fault 0
0	70	Page fault 1
1	701	Page fault 2
2	201	Page fault 3
0	201	No page fault!
3	203	Page fault 4
0	203	No page fault!
4	403	Page fault 5
2	402	Page fault 6
3	432	Page fault 7
0	032	Page fault 8
3	032	No page fault!
2	032	No page fault!
1	132	Page fault 9
2	132	No page fault!
0	102	Page fault 10
1	102	No page fault!
7	107	Page fault 11
0	107	No page fault!
1	107	No page fault!

Total no of page faults in lru
is:12 Do you want to continue?
If yes press
1 If no press
0 0