EX NO: 10B	**LRU PAGE REPLACEMENT ALGORITHM**
DATE:	

AIM:

To implement page replacement algorithm LRU (Least Recently Used LRU (Lease Recently Used). Here we select the page that has not been used for the longest period of time.

ALGORITHM:

1: Create a queue to hold all pages in memory

2: When the page is required replace the page at the head of the queue

3: Now the new page is inserted at the tail of the queue

4: Create a stack

5: When the page fault occurs replace page present at the bottom of the stack

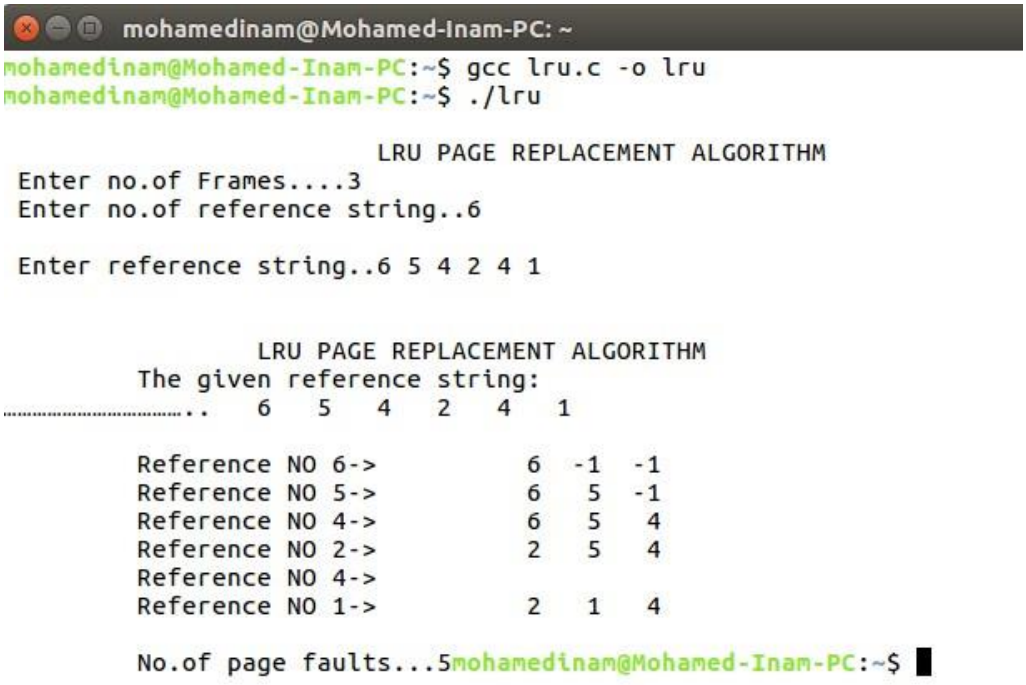
PROGRAM:

```
 #include<stdio.h>
 int i,j,nof,nor,flag=0,ref[50],frm[50],pf=0,victim=-1; int
 recent[10],lrucal[50],count=0;
 int lruvictim(); void main()
 {
 clrscr();
printf("\n\t\t\t LRU PAGE REPLACEMENT ALGORITHM");
 printf("\n Enter no.of Frames....");     scanf("%d",&nof);
 printf(" Enter no.of reference string..");         scanf("%d",&nor);

printf("\n Enter reference string..");
 for(i=0;i<nor;i++)
            scanf("%d",&ref[i]);

 printf("\n\n\t\t LRU PAGE REPLACEMENT ALGORITHM ");  printf("\n\t The
given reference string:");
 printf("\n……..");

  for(i=0;i<nor;i++)
 printf("%4d",ref[i]);

  for(i=1;i<=nof;i++)
  {
 frm[i]=-1;
  lrucal[i]=0;
  }

  for(i=0;i<10;i++)
 recent[i]=0;     printf("\n");

   for(i=0;i<nor;i++)
   {
 flag=0;

printf("\n\t Reference NO %d->\t",ref[i]);
     for(j=0;j<nof;j++)
     {
       if(frm[j]==ref[i])
       {
  flag=1;
  break;
       }
```

```
}      if(flag==0)
{
      count++;
 if(count<=nof)
```

```
            victim++;
        else
            victim=lruvictim();
            pf++;
            frm[victim]=ref[i];

        for(j=0;j<nof;j++)
            printf("%4d",frm[j]);
      }
             recent[ref[i]]=i;
    }
            printf("\n\n\t No.of page faults...%d",pf);
            getch();
}

int lruvictim()
{
  int i,j,temp1,temp2;

            for(i=0;i<nof;i++)
            {
                    temp1=frm[i];
                     lrucal[i]=recent[temp1];
            }
  temp2=lrucal[0];
  for(j=1;j<nof;j++)
  {
             if(temp2>lrucal[j])
            temp2=lrucal[j];
  }
  for(i=0;i<nof;i++)
            if(ref[temp2]==frm[i])

  return i;
  return 0;
}
```

OUTPUT:


mohamedinam@Mohamed-Inam-PC: ~
mohamedinam@Mohamed-Inam-PC:~$ gcc lru.c -o lru
mohamedinam@Mohamed-Inam-PC:~$ ./lru
LRU PAGE REPLACEMENT ALGORITHM
Enter no.of Frames....3
Enter no.of reference string..6
Enter reference string..6 5 4 2 4 1
LRU PAGE REPLACEMENT ALGORITHM
The given reference string:
…….. 6 5 4 2 4 1
Reference NO 6-> 6 -1 -1
Reference NO 5-> 6 5 -1
Reference NO 4-> 6 5 4
Reference NO 2-> 2 5 4
Reference NO 4->
Reference NO 1-> 2 1 4
No.of page faults...5mohamedinam@Mohamed-Inam-PC:~$

RESULT:

Thus the LRU page replacement algorithm is implemented successfully.