

//LRU PAGE REPLACEMENT ALGORITHM

```

#include<stdio.h>
int min(int index[],int size)
{
    int i;
    int mini=0;
    for(i=0;i<size;i++)
    {
        if(index[i]<index[mini])
            mini=i;
    }
    return mini;
}

int main()
{
    int size,n,i,j,k=0,flag=0,t=0,pr=0,pf=0,cnt=0,mini,m;
    printf("\nenter no of frames:");
    scanf("%d",&size);
    printf("\nenter no pages:");
    scanf("%d",&n);
    int f[size],p[n],index[size];
    for(i=0;i<size;i++)f[i]=-1;
    printf("\nenter %d pages:",n);
    for(i=0;i<n;i++)scanf("%d",&p[i]);
    for(i=0;i<n;i++)
    {
        flag=0;
        for(j=0;j<size;j++)
        {
            if(f[j]==p[i])
            {
                index[j]=i;
                flag=1;
                break;
            }
        }
        if(flag==0)
        {
            if(cnt<size)
            {
                for(j=0;j<size;j++)
                {
                    if(f[j]==-1)
                    {
                        f[j]=p[i];
                        index[k]=i;
                        k++;
                        pf++;
                    }
                }
            }
        }
    }
}

```

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```
        cnt++;
        break;
    }
}
else
{
    mini=min(index,size);
    f[mini]=p[i];
    index[mini]=i;
    pf++;
    pr++;
}
}
printf("\n\nframes : \t");
for(m=0;m<size;m++)
    printf("%d\t",f[m]);
}
printf("\npage faults : %d",pf);
printf("\npage replacements : %d\n",pr);
return 0;
}
```

OUTPUT:

```
frames :      1      5      6
page faults : 7
page replacements : 4
kavya@kavya-Inspiron-3521:~/kavya$ geany optimal.c
kavya@kavya-Inspiron-3521:~/kavya$ gcc lru.c
kavya@kavya-Inspiron-3521:~/kavya$ ./a.out

enter no of frames:3
enter no pages:9
enter 9 pages:1
2
3
1
4
2
1
5
6

frames :      1      -1     -1
frames :      1      2      -1
frames :      1      2      3
frames :      1      2      3
frames :      1      4      3
frames :      1      4      2
frames :      1      4      2
frames :      1      5      2
frames :      1      5      6
page faults : 7
page replacements : 4
kavya@kavya-Inspiron-3521:~/kavya$
```

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