#include<stdio.h>

int i,j,nof,nor,flag=0,ref[50],frm[50],pf=0,victim=-1;

int main()

{

printf("\n \t\t\t FIFO PAGE REPLACEMENT ALGORITHM");

printf("\n Enter no.of frames....");

scanf("%d",&nof);

printf("Enter number of reference string..\n");

scanf("%d",&nor);

printf("\n Enter the reference string..");

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

scanf("%d",&ref[i]);

printf("\nThe given reference string:");

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

printf("%4d",ref[i]);

for(i=1;i<=nof;i++)

frm[i]=-1;

printf("\n");

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

{

flag=0;

printf("\n\t Reference %d->\t",ref[i]);

for(j=0;j<nof;j++)

{

if(frm[j]==ref[i])

{

flag=1;

break;

}}

if(flag==0)

{

pf++;

victim++;

victim=victim%nof;

frm[victim]=ref[i];

for(j=0;j<nof;j++)

printf("%4d",frm[j]);

}

}

printf("\n\n\t\t No.of pages faults...%d",pf);

return 0;

}

**LRU**

#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();

int main()

{

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);

return 0;

}

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;

}

OPTIMAL :

#include<stdio.h>

int i,j,nof,nor,flag=0,ref[50],frm[50],pf=0,victim=-1;

int recent[10],optcal[50],count=0;

int optvictim();

int main()

{

printf("\n OPTIMAL PAGE REPLACEMENT ALGORITHN");

printf("\n.................................");

printf("\nEnter the no.of frames");

scanf("%d",&nof);

printf("Enter the no.of reference string");

scanf("%d",&nor);

printf("Enter the reference string");

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

scanf("%d",&ref[i]);

printf("\n OPTIMAL PAGE REPLACEMENT ALGORITHM");

printf("\n................................");

printf("\nThe given string");

printf("\n....................\n");

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

printf("%4d",ref[i]);

for(i=0;i<nof;i++)

{

frm[i]=-1;

optcal[i]=0;

}

for(i=0;i<10;i++)

recent[i]=0;

printf("\n");

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

{

flag=0;

printf("\n\tref 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=optvictim(i);

pf++;

frm[victim]=ref[i];

for(j=0;j<nof;j++)

printf("%4d",frm[j]);

} }

printf("\n Number of page faults: %d",pf);

return 0;

}

int optvictim(int index)

{

int i,j,temp,notfound;

for(i=0;i<nof;i++)

{

notfound=1;

for(j=index;j<nor;j++)

if(frm[i]==ref[j])

{

notfound=0;

optcal[i]=j;

break;

}

if(notfound==1)

return i;

}

temp=optcal[0];

for(i=1;i<nof;i++)

if(temp<optcal[i])

temp=optcal[i];

for(i=0;i<nof;i++)

if(frm[temp]==frm[i])

return i;

return 0;

}