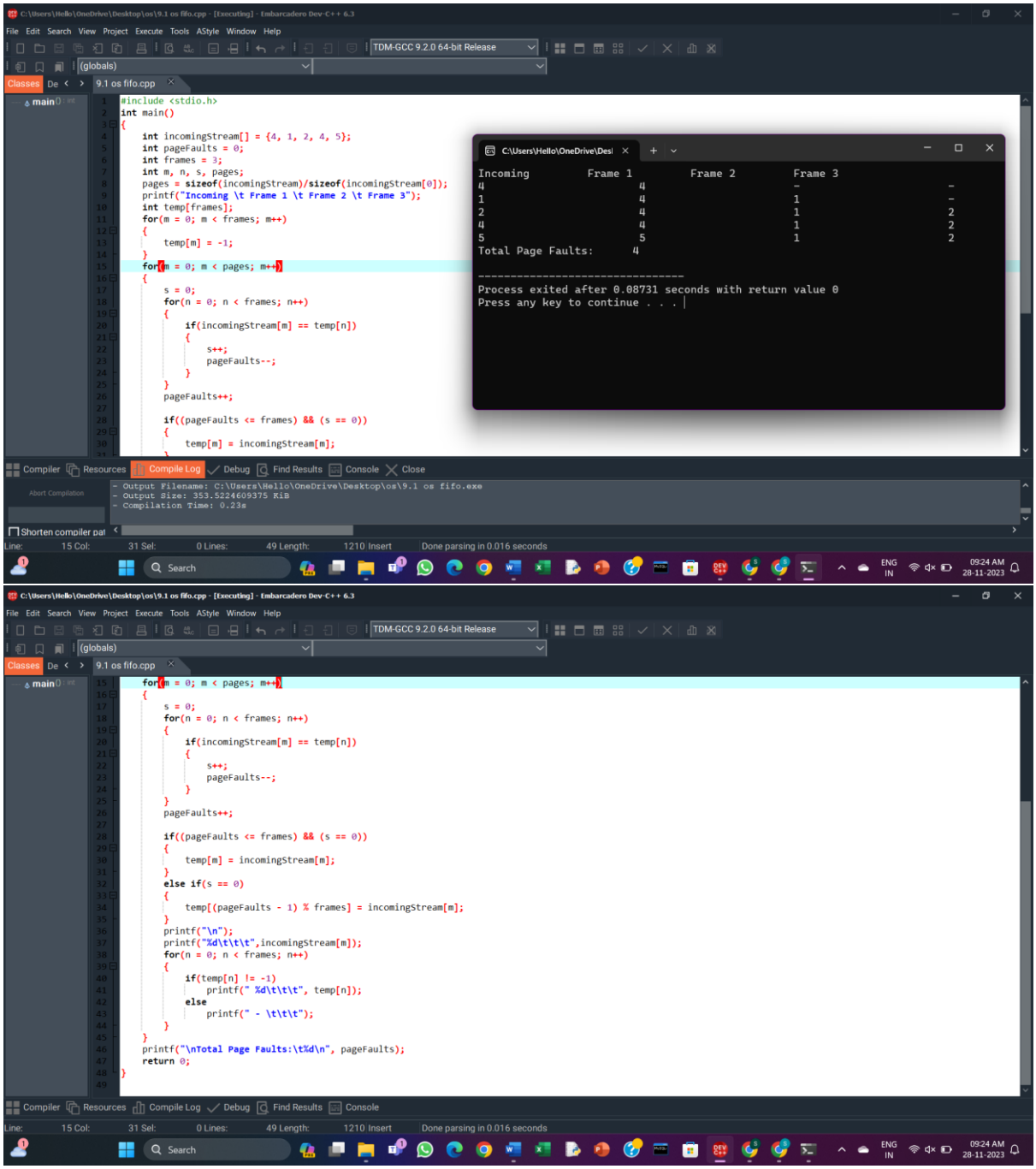
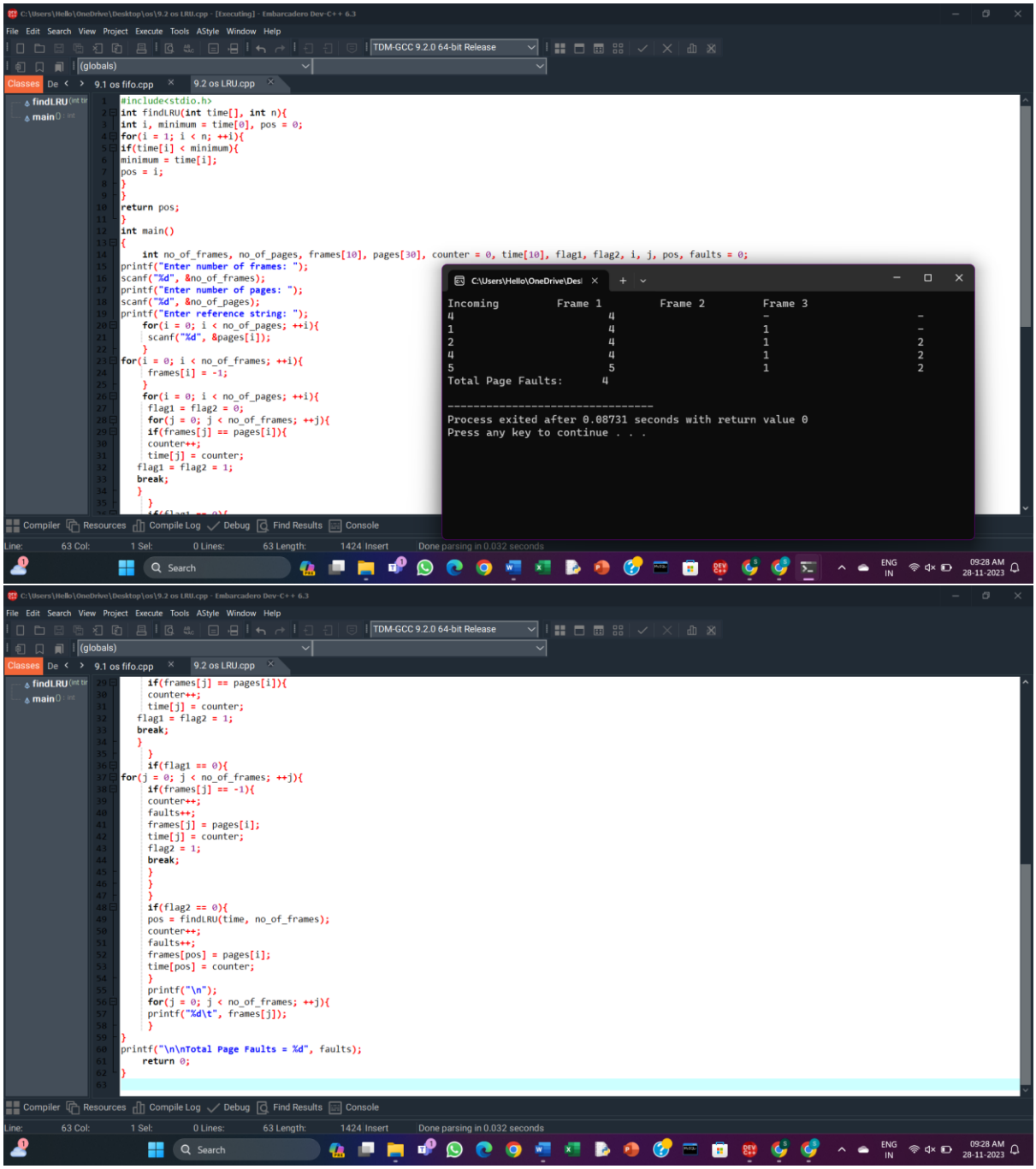
Fifo :

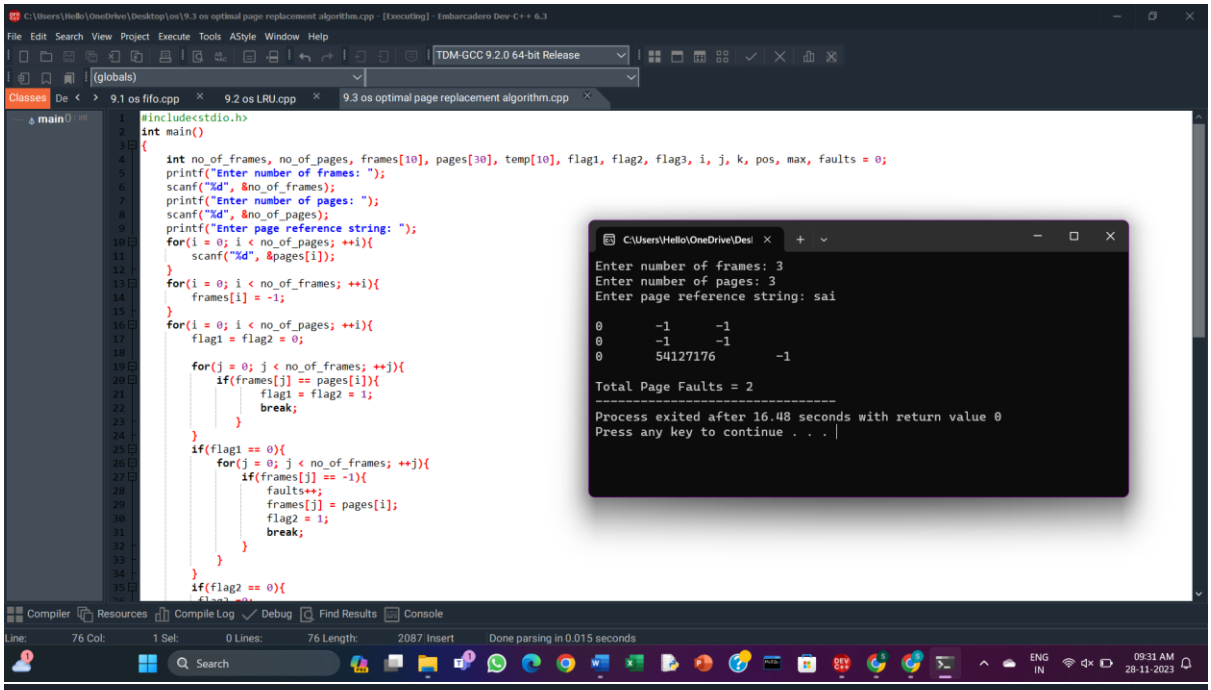

9.1 os fifo.cpp
#include <stdio.h>
int main()
{
int incomingStream[] = {4, 1, 2, 4, 5};
int pageFaults = 0;
int frames = 3;
int m, n, s, pages;
pages = sizeof(incomingStream)/sizeof(incomingStream[0]);
printf("Incoming \t Frame 1 \t Frame 2 \t Frame 3");
int temp[frames];
for(m = 0; m < frames; m++)
{
temp[m] = -1;
}
for(m = 0; m < pages; m++)
{
s = 0;
for(n = 0; n < frames; n++)
{
if(incomingStream[m] == temp[n])
{
s++;
pageFaults--;
}
}
pageFaults++;
if((pageFaults <= frames) && (s == 0))
{
temp[m] = incomingStream[m];
C:\Users\Hello\OneDrive\Desi
Incoming Frame 1 Frame 2 Frame 3
4 4 - -
1 4 1 -
2 4 1 2
4 4 1 2
5 5 1 2
Total Page Faults: 4
Process exited after 0.08731 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Console Close
- Output Filename: C:\Users\Hello\OneDrive\Desktop\os\9.1 os fifo.exe
- Output Size: 353.5224609375 KiB
- Compilation Time: 0.23s
Done parsing in 0.016 seconds

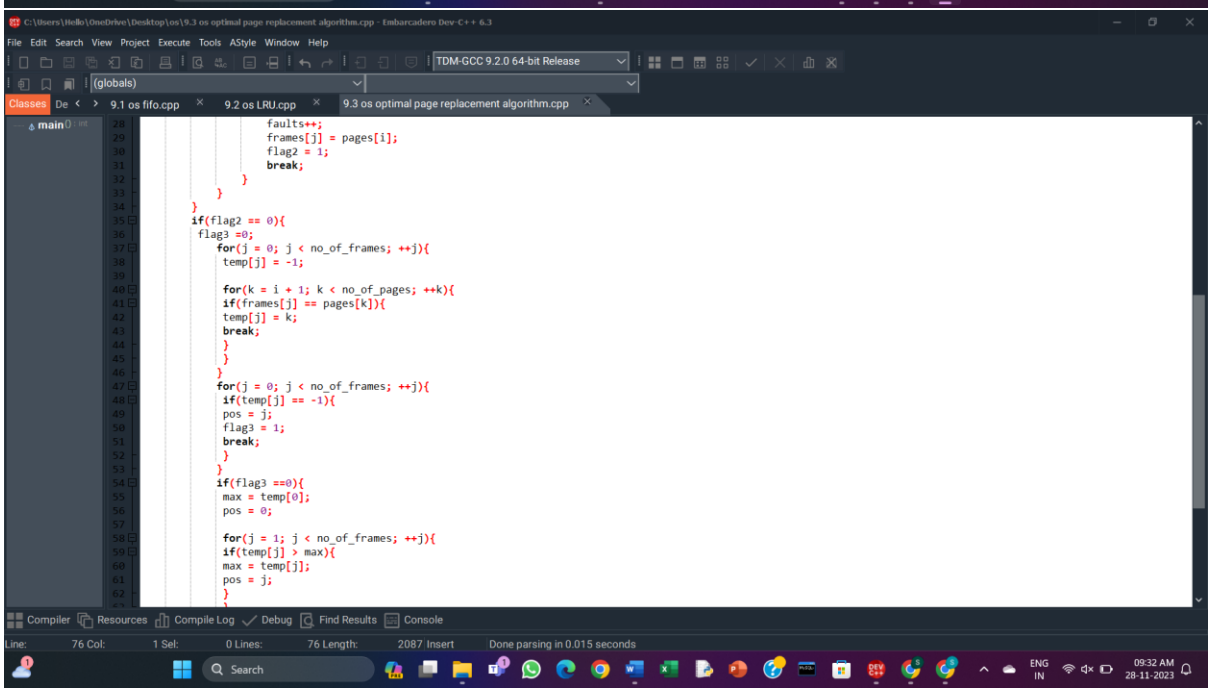
9.1 os fifo.cpp
for(m = 0; m < pages; m++)
{
s = 0;
for(n = 0; n < frames; n++)
{
if(incomingStream[m] == temp[n])
{
s++;
pageFaults--;
}
}
pageFaults++;
if((pageFaults <= frames) && (s == 0))
{
temp[m] = incomingStream[m];
}
else if(s == 0)
{
temp[(pageFaults - 1) % frames] = incomingStream[m];
}
printf("\n");
printf("%d\t\t\t",incomingStream[m]);
for(n = 0; n < frames; n++)
{
if(temp[n] != -1)
printf(" %d\t\t\t", temp[n]);
else
printf(" - \t\t\t");
}
}
printf("\nTotal Page Faults:\t%d\n", pageFaults);
return 0;
}
Compiler Resources Compile Log Debug Find Results Console
Done parsing in 0.016 seconds

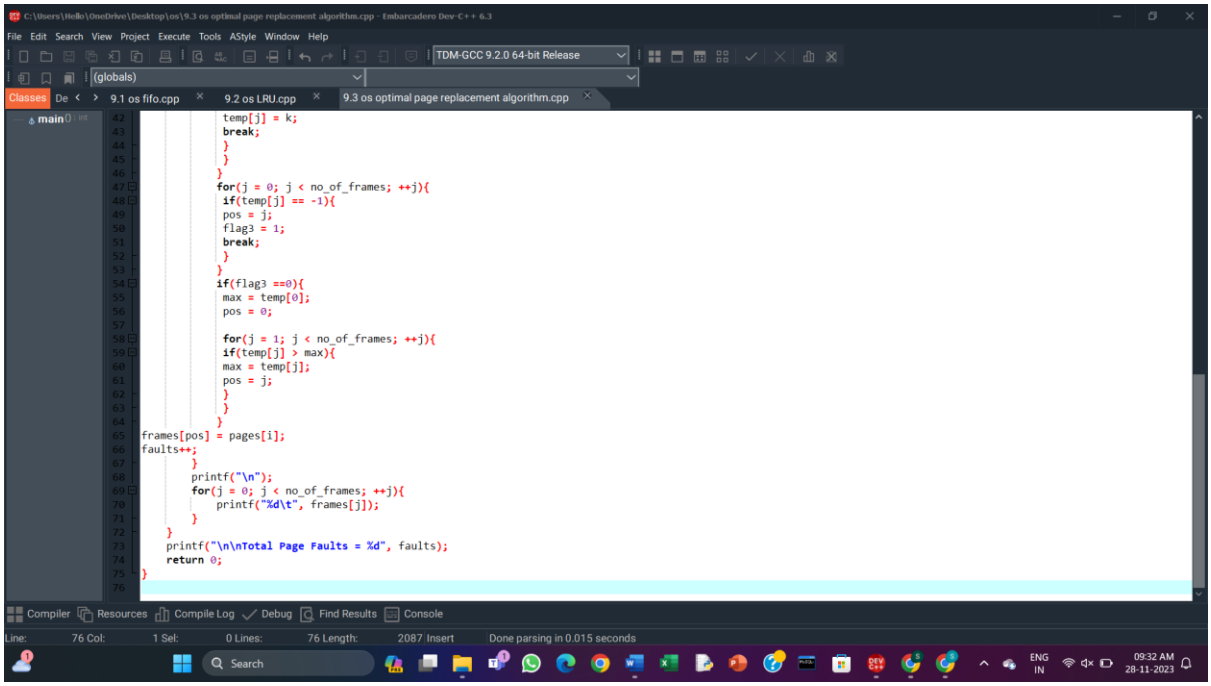
2. LRU:



3. optimal page replacement algorithm:


C:\Users\Hello\Desktop\os\9.3 os optimal page replacement algorithm.cpp - [Executing] - Embarcadero Dev-C++ 6.3
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 9.2.0 64-bit Release
(globals)
Classes
9.1 os fifo.cpp
9.2 os LRU.cpp
9.3 os optimal page replacement algorithm.cpp
main()
#include<stdio.h>
int main()
{
int no_of_frames, no_of_pages, frames[10], pages[30], temp[10], flag1, flag2, flag3, i, j, k, pos, max, faults = 0;
printf("Enter number of frames: ");
scanf("%d", &no_of_frames);
printf("Enter number of pages: ");
scanf("%d", &no_of_pages);
printf("Enter page reference string: ");
for(i = 0; i < no_of_pages; ++i){
scanf("%d", &pages[i]);
}
for(i = 0; i < no_of_frames; ++i){
frames[i] = -1;
}
for(i = 0; i < no_of_pages; ++i){
flag1 = flag2 = 0;
for(j = 0; j < no_of_frames; ++j){
if(frames[j] == pages[i]){
flag1 = flag2 = 1;
break;
}
}
if(flag1 == 0){
for(j = 0; j < no_of_frames; ++j){
if(frames[j] == -1){
faults++;
frames[j] = pages[i];
flag2 = 1;
break;
}
}
}
if(flag2 == 0){
C:\Users\Hello\OneDrive\Desi
Enter number of frames: 3
Enter number of pages: 3
Enter page reference string: sai
0 -1 -1
0 -1 -1
0 54127176 -1
Total Page Faults = 2
Process exited after 16.48 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Console
Line: 76 Col: 1 Sel: 0 Lines: 76 Length: 2087 Insert Done parsing in 0.015 seconds
Search
ENG IN
09:31 AM 28-11-2023


C:\Users\Hello\OneDrive\Desktop\os\9.3 os optimal page replacement algorithm.cpp - Embarcadero Dev-C++ 6.3
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 9.2.0 64-bit Release
(globals)
Classes
9.1 os fifo.cpp
9.2 os LRU.cpp
9.3 os optimal page replacement algorithm.cpp
main()
faults++;
frames[j] = pages[i];
flag2 = 1;
break;
}
}
}
if(flag2 == 0){
flag3 =0;
for(j = 0; j < no_of_frames; ++j){
temp[j] = -1;
for(k = i + 1; k < no_of_pages; ++k){
if(frames[j] == pages[k]){
temp[j] = k;
break;
}
}
}
for(j = 0; j < no_of_frames; ++j){
if(temp[j] == -1){
pos = j;
flag3 = 1;
break;
}
}
if(flag3 ==0){
max = temp[0];
pos = 0;
for(j = 1; j < no_of_frames; ++j){
if(temp[j] > max){
max = temp[j];
pos = j;
}
Compiler Resources Compile Log Debug Find Results Console
Line: 76 Col: 1 Sel: 0 Lines: 76 Length: 2087 Insert Done parsing in 0.015 seconds
Search
ENG IN
09:32 AM 28-11-2023


C:\Users\Hello\OneDrive\Desktop\os\9.3 os optimal page replacement algorithm.cpp - Embarcadero Dev-C++ 6.3
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 9.2.0 64-bit Release
(globals)
Classes
9.1 os fifo.cpp
9.2 os LRU.cpp
9.3 os optimal page replacement algorithm.cpp
main
temp[j] = k;
break;
}
}
}
for(j = 0; j < no_of_frames; ++j){
if(temp[j] == -1){
pos = j;
flag3 = 1;
break;
}
}
if(flag3 ==0){
max = temp[0];
pos = 0;
for(j = 1; j < no_of_frames; ++j){
if(temp[j] > max){
max = temp[j];
pos = j;
}
}
}
frames[pos] = pages[i];
faults++;
}
printf("\n");
for(j = 0; j < no_of_frames; ++j){
printf("%d\t", frames[j]);
}
}
printf("\n\nTotal Page Faults = %d", faults);
return 0;
}
Compiler
Resources
Compile Log
Debug
Find Results
Console
Line: 76 Col: 1 Sel: 0 Lines: 76 Length: 2087 Insert
Done parsing in 0.015 seconds
Search
ENG
IN
09:32 AM
28-11-2023