

READER AND WRITER PROBLEM

AIM:

TO WRITE A PROGRAM FOR READER AND WRITER PROBLEM USING C LANGUAGE.

The readers-writers problem relates to an object such as a file that is shared between multiple processes.

Some of these processes are readers i.e. they only want to read the data from the object and some of the processes are writers i.e. they want to write into the object.

The readers-writers problem is used to manage synchronization so that there are no problems with the object data.

ALGORITHM:

Program to implement reader and writer problem?

For example:

Test	Input	Result
T1	1 3 5	Reader writer Menu 1.Read from file 2.Write to file 3.Exit the reader 4.Exit the writer 5.Exit Reader 1 reads Menu 1.Read from file 2.Write to file 3.Exit the reader 4.Exit the writer 5.Exit The reader 1 closes the file Menu 1.Read from file 2.Write to file 3.Exit the reader 4.Exit the writer 5.Exit

PROGRAM:

```
1 #include <stdio.h>
2 int main(){
3     printf("Reader writer");
4     int i=0,ch,swrite=0,sread=0;
5     while(i==0){
6         printf("\nMenu");
7         printf("\n1.Read from file");
8         printf("\n2.Write to file");
9         printf("\n3.Exit the reader");
10        printf("\n4.Exit the writer");
11        printf("\n5.Exit");
12        scanf("%d",&ch);
13        switch(ch){
14            case 1:
15                if(swrite==0){
16                    sread++;
17                    printf("\nReader %d reads",sread);
18                    break;
19                }else{
20                    printf("Not possible");
21                    break;
22                }
23            }
24    }
```

```

23     case 2:
24     if(sread==0 && swrite==0){
25         swrite++;
26         printf("\nwriter in progress");
27         break;
28     }else{
29         printf("Not possible");
30         break;
31     }
32     case 3:
33     printf("\nThe reader %d closes the file",sread);
34     sread--;
35     break;
36     case 4:
37     printf("\nwriter close the file");
38     swrite--;
39     break;
40     case 5:
41     i=1;
42     }
43     }
44 }

```

OUTPUT:

	Test	Input	Expected	Got
✓	T1	1 3 5	Reader writer Menu 1.Read from file 2.Write to file 3.Exit the reader	Reader writer Menu 1.Read from 2.Write to f 3.Exit the r

RESULT:

READER AND WRITER PROBLEM WAS SUCCESSFULLY EXECUTED USING C LANGUAGE.