**// READER WRITER PROBLEM**

#include<unistd.h>

#include<semaphore.h>

#include <pthread.h>

#include<stdio.h>

#include<stdlib.h>

sem\_t r,w;

int rdct=0;

void \*reader(void\*arg){

int n= \*(int\*)arg;

sem\_wait(&r);

rdct++;

if(rdct==1){

sem\_wait(&w);

}

sem\_post(&r);

printf("\n reader no=%d",n);

sem\_wait(&r);

rdct--;

if(rdct==0){

sem\_post(&w);

}

sem\_post(&r);

}

void \*writer(void\*arg)

{

int n= \*(int\*)arg;

sem\_wait(&w);

printf("\n Writer no=%d",n);

sem\_post(&w);

}

void main(){

pthread\_t re[10], wr[10];

//int k=1;

int i;

sem\_init(&r,0,1);

sem\_init(&w,0,1);

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

pthread\_create(&re[i],NULL,reader,(void\*)&i);

}

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

pthread\_create(&wr[i],NULL,writer,(void\*)&i

);

}

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

pthread\_join(re[i],NULL);

}

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

pthread\_join(wr[i],NULL);

}

}

**// OUTPUT**

[student@localhost ~]$ gcc a.c -lpthread

[student@localhost ~]$ ./a.out

reader no=1

reader no=2

reader no=3

reader no=5

reader no=6

reader no=6

reader no=7

reader no=8

reader no=9

reader no=0

Writer no=1

Writer no=2

Writer no=3

Writer no=5

Writer no=6

Writer no=7

Writer no=8

Writer no=9

Writer no=0

Writer no=5