EXP-20

#include<stdio.h>

#include<pthread.h>

#include<semaphore.h>

sem\_t mutex;

sem\_t db;

int readercount=0;

pthread\_t reader1,reader2,writer1,writer2;

void \*reader(void \*);

void \*writer(void \*);

main()

{

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

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

while(1)

{

pthread\_create(&reader1,NULL,reader,"1");

pthread\_create(&reader2,NULL,reader,"2");

pthread\_create(&writer1,NULL,writer,"1");

pthread\_create(&writer2,NULL,writer,"2");

}

}

void \*reader(void \*p)

{

printf("prevoius value %dn",mutex);

sem\_wait(&mutex);

printf("Mutex acquired by reader %dn",mutex);

readercount++;

if(readercount==1) sem\_wait(&db);

sem\_post(&mutex);

printf("Mutex returned by reader %dn",mutex);

printf("Reader %s is Readingn",p);

//sleep(3);

sem\_wait(&mutex);

printf("Reader %s Completed Readingn",p);

readercount--;

if(readercount==0) sem\_post(&db);

sem\_post(&mutex);

}

void \*writer(void \*p)

{

printf("Writer is Waiting n");

sem\_wait(&db);

printf("Writer %s is writingn ",p);

sem\_post(&db);

//sleep(2);

}

