EXPERIMENT 20

#include<stdio.h>

#include<pthread.h>

#include<semaphore.h>

sem\_t mutex,writeblock;

int data = 0,rcount = 0;

void \*reader(void \*arg)

{

int f;

f = ((int)arg);

sem\_wait(&mutex);

rcount = rcount + 1;

if(rcount==1)

sem\_wait(&writeblock);

sem\_post(&mutex);

printf("Data read by the reader%d is %d\n",f,data);

sleep(1);

sem\_wait(&mutex);

rcount = rcount - 1;

if(rcount==0)

sem\_post(&writeblock);

sem\_post(&mutex);

}

void \*writer(void \*arg)

{

int f;

f = ((int) arg);

sem\_wait(&writeblock);

data++;

printf("Data writen by the writer%d is %d\n",f,data);

sleep(1);

sem\_post(&writeblock);

}

int main()

{

int i,b;

pthread\_t rtid[5],wtid[5];

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

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

for(i=0;i<=2;i++)

{

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

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

}

for(i=0;i<=2;i++)

{

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

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

}

return 0;

}