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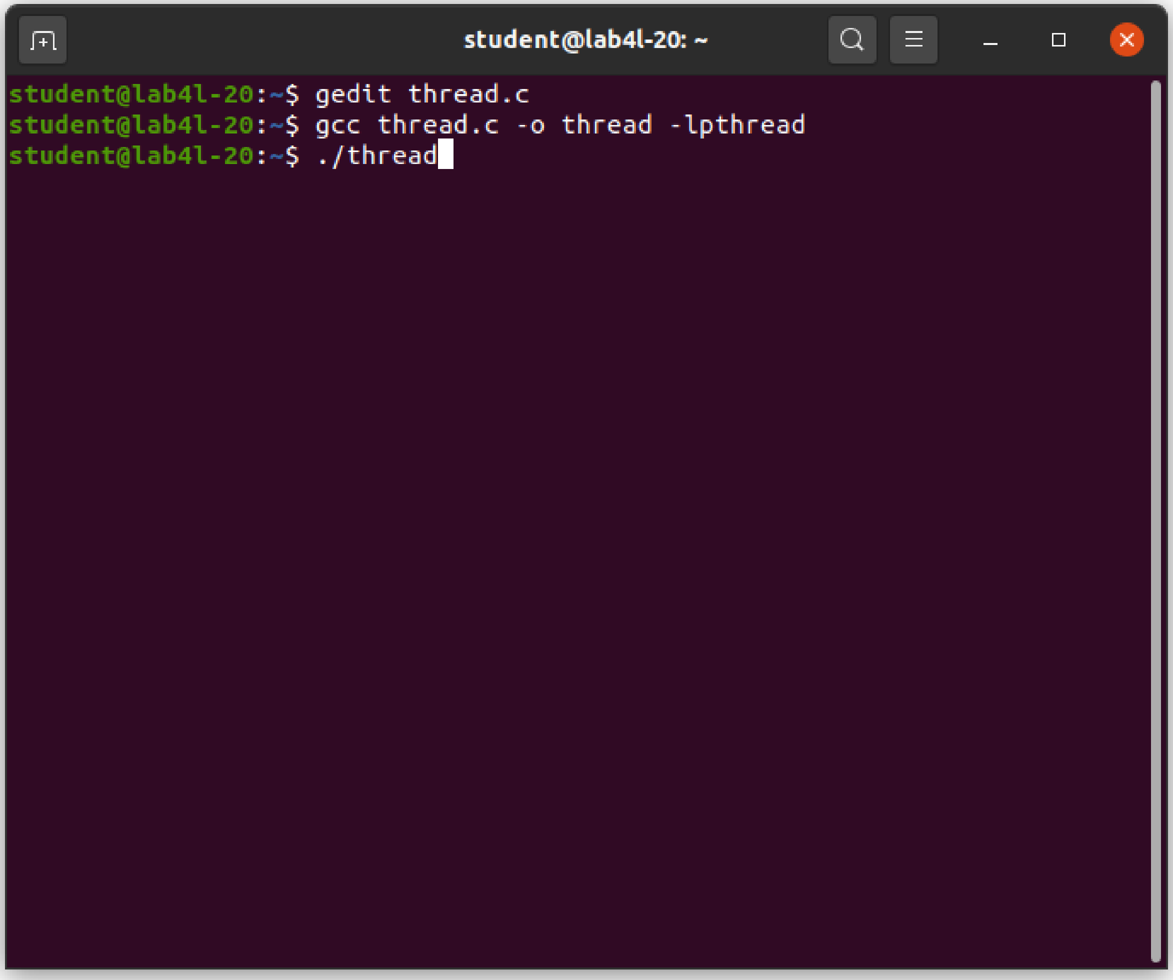
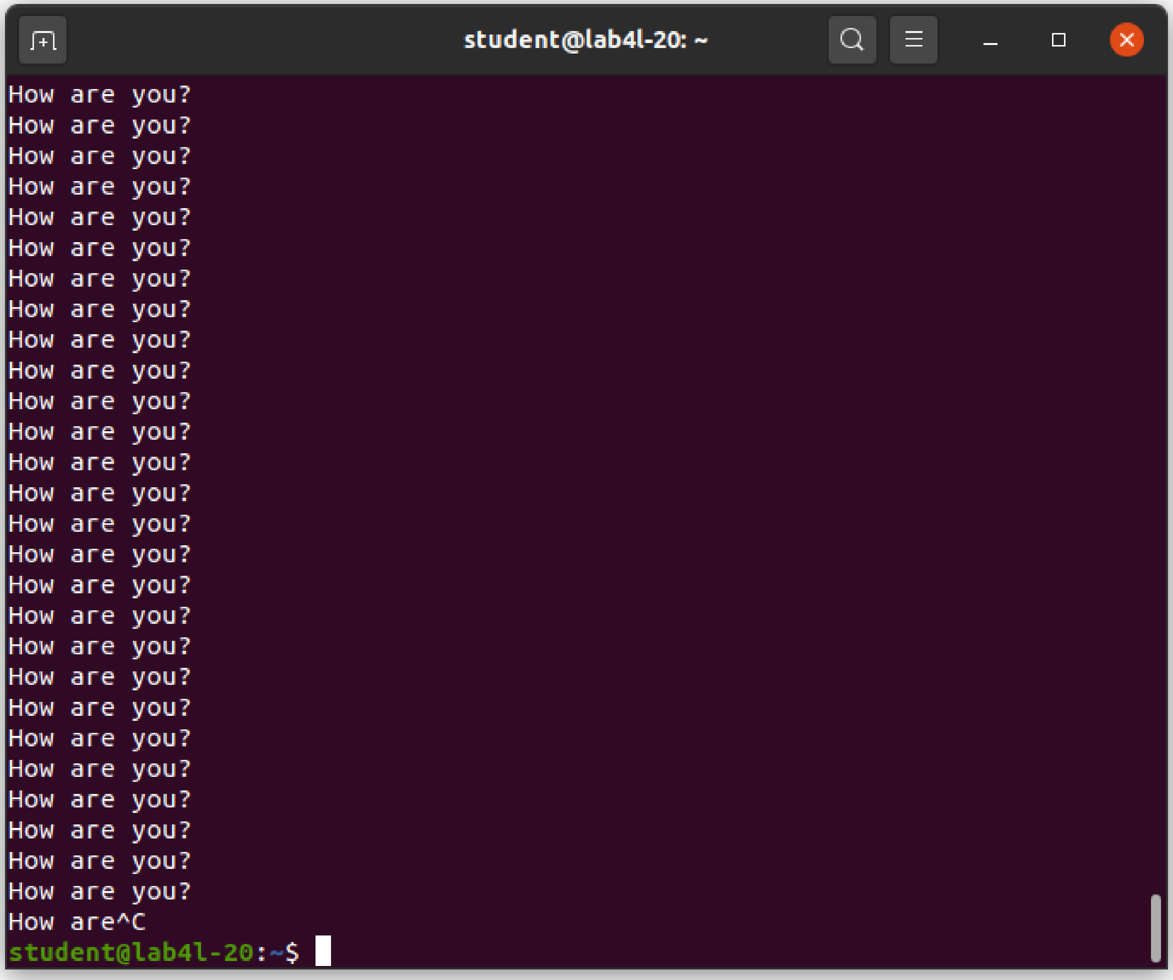
**20k-1044**
**SE-5A**

# LAB 8

### Example 1



```
student@lab4l-20:~$ gedit thread.c
student@lab4l-20:~$ gcc thread.c -o thread -lpthread
student@lab4l-20:~$ ./thread
```



```
How are you?
How are you?
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How are you?
How are you?
How are^C
student@lab4l-20:~$ 
```
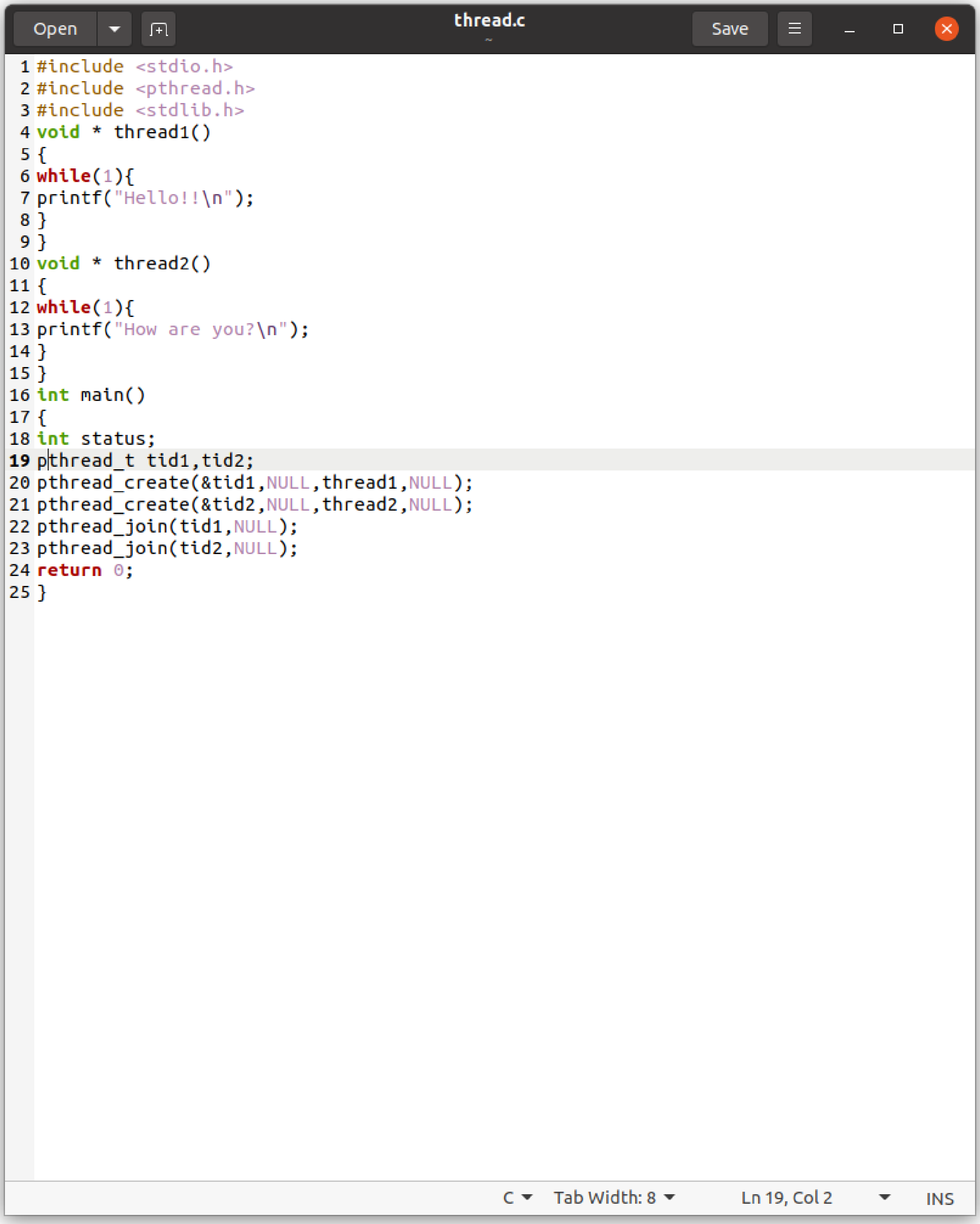
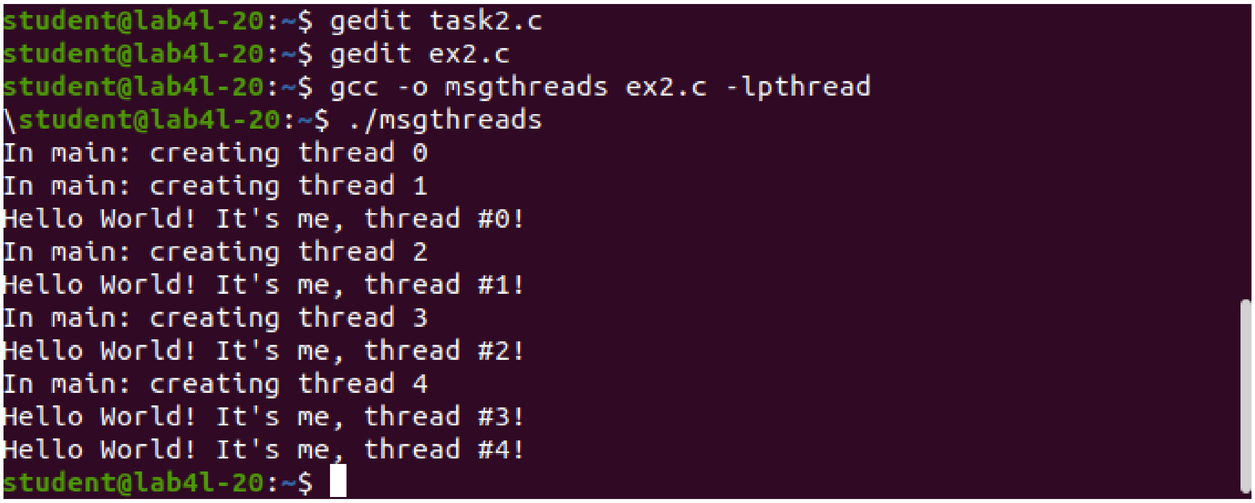
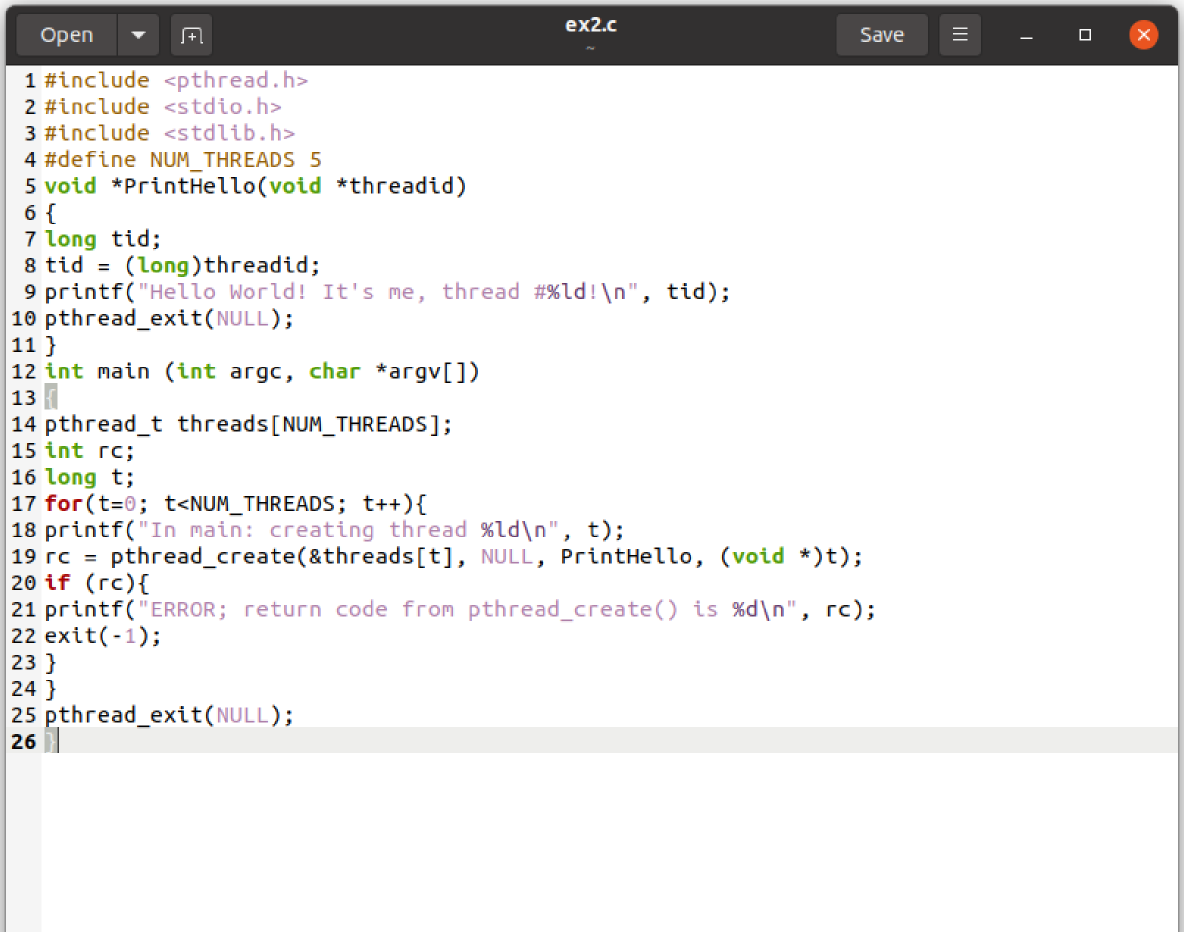



```c
#include <stdio.h>
#include <pthread.h>
#include <stdlib.h>
void * thread1()
{
while(1){
printf("Hello!!\n");
}
}
void * thread2()
{
while(1){
printf("How are you?\n");
}
}
int main()
{
int status;
pthread_t tid1,tid2;
pthread_create(&tid1,NULL,thread1,NULL);
pthread_create(&tid2,NULL,thread2,NULL);
pthread_join(tid1,NULL);
pthread_join(tid2,NULL);
return 0;
}
```

# Example 2

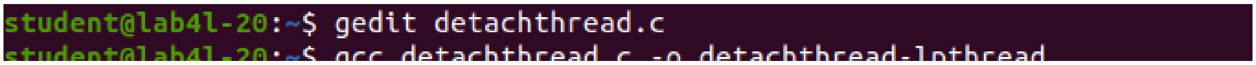


```
student@lab4l-20:~$ gedit task2.c
student@lab4l-20:~$ gedit ex2.c
student@lab4l-20:~$ gcc -o msgthreads ex2.c -lpthread
\student@lab4l-20:~$ ./msgthreads
In main: creating thread 0
In main: creating thread 1
Hello World! It's me, thread #0!
In main: creating thread 2
Hello World! It's me, thread #1!
In main: creating thread 3
Hello World! It's me, thread #2!
In main: creating thread 4
Hello World! It's me, thread #3!
Hello World! It's me, thread #4!
student@lab4l-20:~$
```

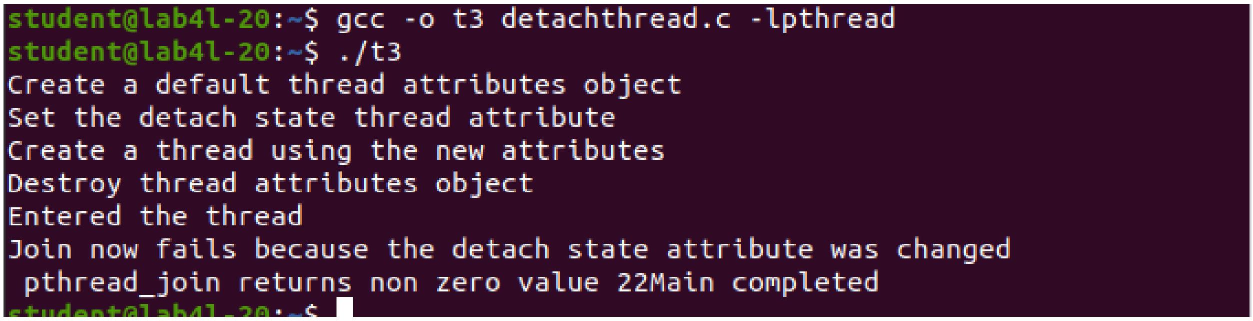


```c
#include <pthread.h>
#include <stdio.h>
#include <stdlib.h>
#define NUM_THREADS 5
void *PrintHello(void *threadid)
{
long tid;
tid = (long)threadid;
printf("Hello World! It's me, thread #%ld!\n", tid);
pthread_exit(NULL);
}
int main (int argc, char *argv[])
{
pthread_t threads[NUM_THREADS];
int rc;
long t;
for(t=0; t<NUM_THREADS; t++){
printf("In main: creating thread %ld\n", t);
rc = pthread_create(&threads[t], NULL, PrintHello, (void *)t);
if (rc){
printf("ERROR; return code from pthread_create() is %d\n", rc);
exit(-1);
}
}
pthread_exit(NULL);
}
```

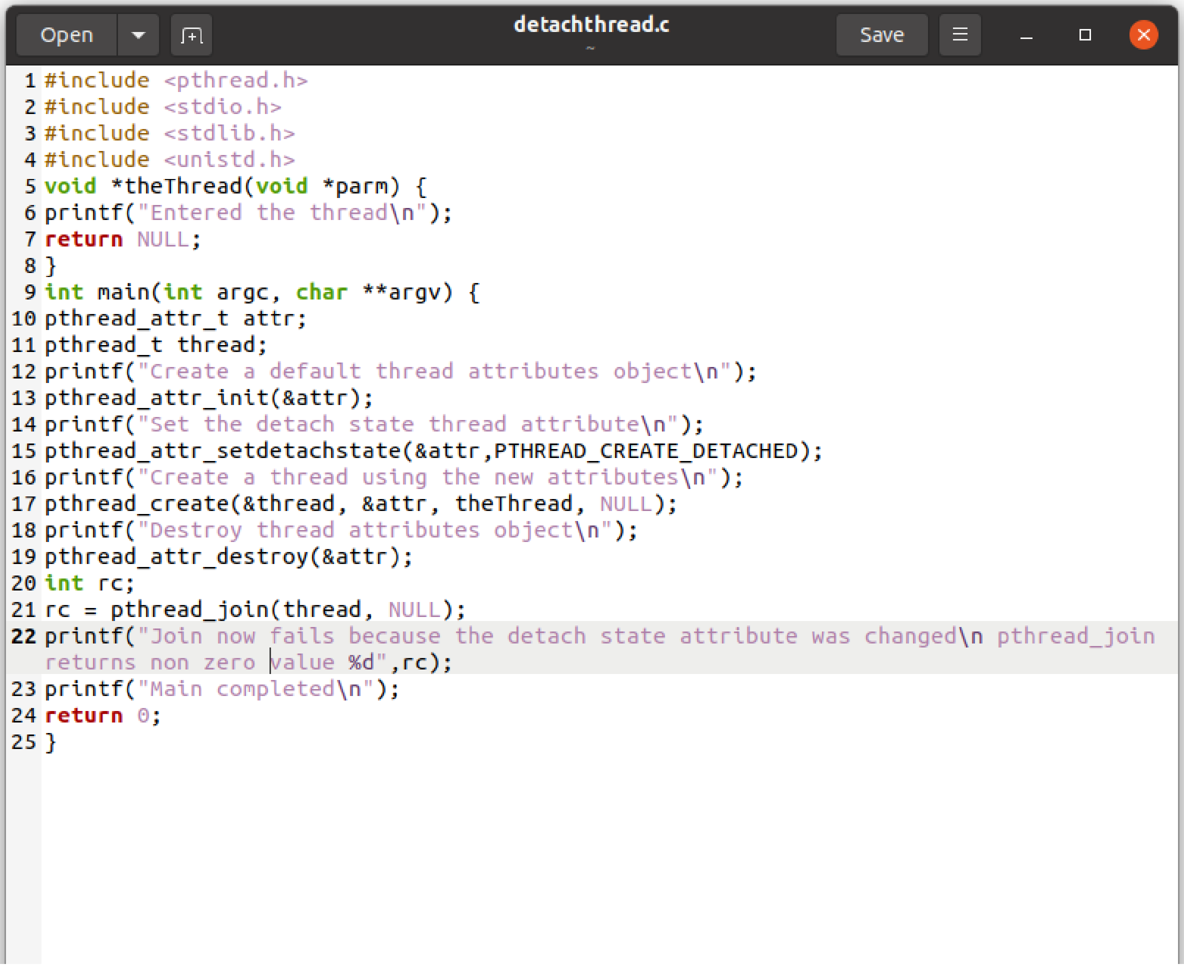
## Example 3



```
student@lab4l-20:~$ gedit detachthread.c
student@lab4l-20:~$ gcc detachthread.c -o detachthread-lpthread
```



```
student@lab4l-20:~$ gcc -o t3 detachthread.c -lpthread
student@lab4l-20:~$ ./t3
Create a default thread attributes object
Set the detach state thread attribute
Create a thread using the new attributes
Destroy thread attributes object
Entered the thread
Join now fails because the detach state attribute was changed
 pthread_join returns non zero value 22Main completed
student@lab4l-20:~$
```



```c
#include <pthread.h>
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
void *theThread(void *parm) {
printf("Entered the thread\n");
return NULL;
}
int main(int argc, char **argv) {
pthread_attr_t attr;
pthread_t thread;
printf("Create a default thread attributes object\n");
pthread_attr_init(&attr);
printf("Set the detach state thread attribute\n");
pthread_attr_setdetachstate(&attr,PTHREAD_CREATE_DETACHED);
printf("Create a thread using the new attributes\n");
pthread_create(&thread, &attr, theThread, NULL);
printf("Destroy thread attributes object\n");
pthread_attr_destroy(&attr);
int rc;
rc = pthread_join(thread, NULL);
printf("Join now fails because the detach state attribute was changed\n pthread_join returns non zero value %d",rc);
printf("Main completed\n");
return 0;
}
```