

# Assignment 10

---

## Q1

---

Once the `getenv()` is called, it will call `pthread_mutex_lock(&env_mutex)`, protecting this thread from being changed by others. After receiving the environment variables(or NULL), it calls `pthread_mutex_unlock(&&env_mutex&)`.

## Q2

---

No. Since there might be some functions we called that will unmask the signal we have blocked, but we did not know. If the signal is set to unblock, our program may encounter some trouble.

## Q3

---

The program stuck when we executed it. We think the reason is that the program didn't find the file to initialize the thread, so it kept searching the file and going into an infinite while loop. After using GDB, we found the following messages:

Starting program: /home/group17/Advanced-UNIX-Programming\_Student  
/assignment10/assignment10 PATH

Breakpoint 5, getenv (name=0x4051e7fc "MALLOC\_CONF") at  
assignment10.c:25

25 pthread\_once(&init\_done, thread\_init);

(gdb) s

\_thr\_once (once\_control=once\_control@entry=0x411348 <init\_done>,  
init\_routine=init\_routine@entry=0x400d90 <thread\_init>)  
at /usr/src/lib/libthr/thread/thr\_once.c:72

72 /usr/src/lib/libthr/thread/thr\_once.c:

No such file or directory.

(gdb) s

\_thr\_check\_init () at /usr/src/lib/libthr/thread/thr\_private.h:929

929 /usr/src/lib/libthr/thread/thr\_private.h:

No such file or directory.

(gdb) s

930 in /usr/src/lib/libthr/thread/thr\_private.h

(gdb) s

\_libpthread\_init (curthread=0x0) at

/usr/src/lib/libthr/thread/thr\_init.c:318

318 /usr/src/lib/libthr/thread/thr\_init.c:

No such file or directory.

(gdb) s

328 in /usr/src/lib/libthr/thread/thr\_init.c

(gdb) s

memcpy () at

/usr/src/contrib/cortex-strings/src/aarch64/memcpy.S:104

104 /usr/src/contrib/cortex-strings/src/aarch64/memcpy.S:

No such file or directory.

(gdb) s

105 in /usr/src/contrib/cortex-strings/src/aarch64/memcpy.S

(gdb) s

106 in /usr/src/contrib/cortex-strings/src/aarch64/memcpy.S

(gdb) s

107 in /usr/src/contrib/cortex-strings/src/aarch64/memcpy.S

(gdb) s

108 in /usr/src/contrib/cortex-strings/src/aarch64/memcpy.S

(gdb) n

109 in /usr/src/contrib/cortex-strings/src/aarch64/memcpy.S