

CS5250 Advanced Operating Systems

Pop Quiz 5

Name: _____ Ding Fan _____

Student Number: _____ A0248373X _____

This is a small programming exercise on Linux signals.

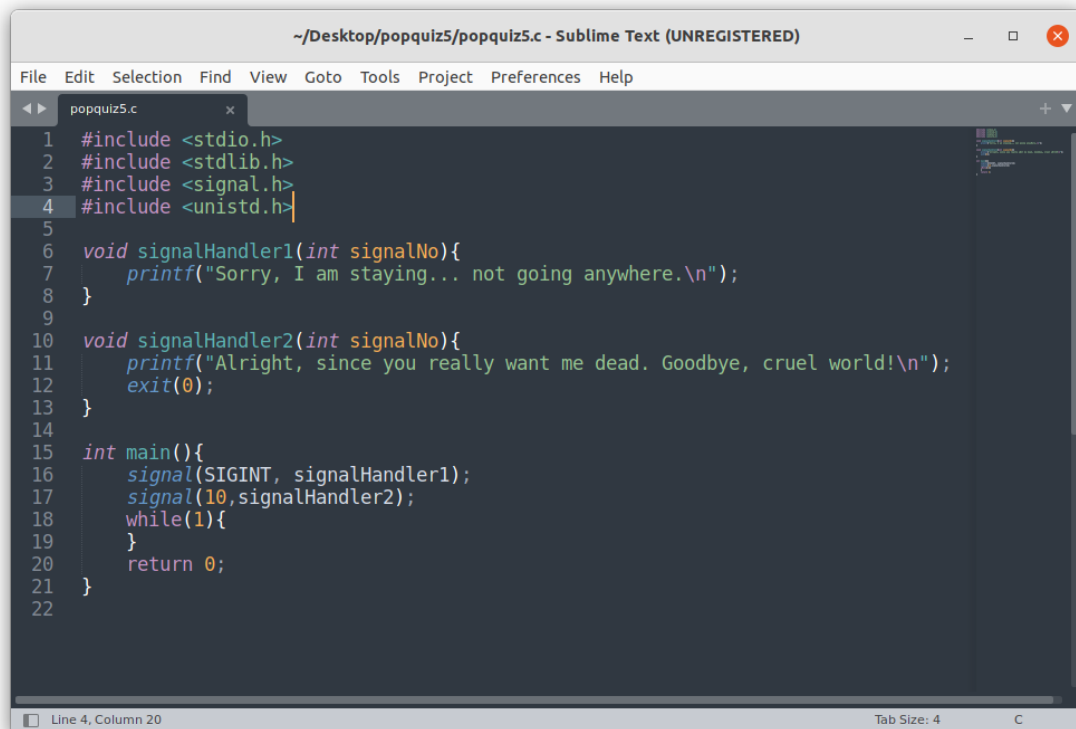
Write a simple C program that satisfy the following specifications:

1. The main body performs an infinite loop.
2. Using the signal mechanism, when it receives a CTRL-C from the keyboard, the program will merely print out "Sorry, I'm staying... not going anywhere." and continues with the infinite loop.
3. When it receives the signal 10, it will print out "Alright, since you really want me dead. Goodbye, cruel world!" and exits.

Show (by screen capture) how you it behaves. Hint: you may need two windows so that you can send the termination signal to the infinite loop program.

Submit your answer in a PDF into the corresponding Luminus submission folder.

- C program code



```
~/Desktop/popquiz5/popquiz5.c - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help
popquiz5.c
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include <signal.h>
4 #include <unistd.h>
5
6 void signalHandler1(int signalNo){
7     printf("Sorry, I am staying... not going anywhere.\n");
8 }
9
10 void signalHandler2(int signalNo){
11     printf("Alright, since you really want me dead. Goodbye, cruel world!\n");
12     exit(0);
13 }
14
15 int main(){
16     signal(SIGINT, signalHandler1);
17     signal(10, signalHandler2);
18     while(1){
19     }
20     return 0;
21 }
22
Line 4, Column 20 Tab Size: 4 C
```

- [illegible]

It also continues with the infinite loop.

- The screenshot shows a Linux desktop environment. At the top, there is a panel with the date and time 'Feb 14 22:29' and system status icons. Below this is a file manager window with a sidebar showing 'Recent', 'Starred', 'Home', 'Documents', and 'Downloads'. The main area displays two files: 'popquiz5.c' and 'popquiz5.o'. In the foreground, there are two terminal windows. The left terminal window shows the user 'dingfan' at the prompt 'dingfan@dingfan: ~'. The user runs 'ps' and 'ps -ef | grep popquiz', which shows the current process and a background process 'popquiz5.o'. The user then runs 'kill -s 10 5302' to terminate the background process. The right terminal window shows the user 'dingfan' at the prompt 'dingfan@dingfan: ~/Desktop/popquiz5'. The user runs 'gcc popquiz5.c -o popquiz5.o' to compile the program. The user then runs './popquiz5.o', which outputs a series of 'ACSorry, I am staying... not going anywhere.' messages, followed by 'Alright, since you really want me dead. Goodbye, cruel world!' and a prompt for the user to press a key.

it will print out "Alright, since you really want me dead. Goodbye, cruel world!" and exits.