

Assignment 4

Operating System Lab (CS341)

Department of CSE, IIT Patna

Date:- 29-Jan-2018

Time:- 3 hours

Instructions:

1. All the assignments should be completed and uploaded by 5 pm. Marks will be deducted for the submissions made after 5 pm.
2. Markings will be based on the correctness and soundness of the outputs. Marks will be deducted in case of plagiarism.
3. Proper indentation and appropriate comments (if necessary) are mandatory.
4. You should zip all the required files and name the zip file as ***roll_no.zip***, eg. **1501cs11.zip**.
5. Upload your assignment (**the zip file**) in the following link:
<https://www.dropbox.com/request/zhRKwXKyfKFXjEmhkpmG>

Questions:

1. Write a simple C program to create 3 threads with the `pthread_create()` routine. Each thread prints a "CSE OS LAB, by Thread ID: %d" message, and then terminates with a call to `pthread_exit()`.
2. Write a simple C program to create 5 threads. Define 3 variables (global, static and local) and show how updates on each variable are reflected in multiple threads.
3. Write a simple C program to create 5 threads and demonstrate how to "wait" for thread completions by using the `Pthread join` routine. Define a subroutine **`void *Busy (void *tid)`** which takes thread id as argument and keeps the thread busy.
Display the following messages in your code in appropriate positions:
"Creating thread %ld\n"
"ERROR; return code from pthread_create() is %d\n"
"ERROR; return code from pthread_join() is %d\n"

"Completed join with thread %ld having a status of %ld\n"
"Exiting from program.\n"