Assignment 5

Operating System Lab (CS342)

Department of CSE, IIT Patna

Date:- 08-Feb-2022 Deadline:- 08-Feb, 11.59 PM

Instructions:

1. All the assignments should be completed and uploaded before the deadline. Marks will be deducted for the submissions made after the deadline.
2. Markings will be based on the correctness and soundness of the outputs. Marks will be deducted in case of plagiarism.
3. Proper indentation & appropriate comments (if necessary) are mandatory. [2+2marks]
4. You should zip all the required files and name the zip file as roll_no .zip
5. Provide a **readme** file with all the execution details (commands to execute) of the codes and outputs/observations (if necessary).
6. Upload your assignment (the zip file) in the following link:

   https://www.dropbox.com/request/aELKyv0mYj48b0XBt44I

1. **The main thread creates ten threads. Then it waits for the threads to terminate, printing the status returned by each thread. The last thread was cancelled which is recorded in the output. Write a C program for this behaviour.**

   Thread 4: Hello World!
   Thread 0: Hello World!
   Thread 1: Hello World!
   i = 0, status = Thread 0
   i = 1, status = Thread 1
   Thread 5: Hello World!
   ……
   i = 8, status = Thread 8
   i = 9, status = CANCELED

2. **Write a C program using two threads to write a text file where first thread writes all the lines except prime numbered lines and second thread writes all the prime numbered lines. The third thread should parallelly count the number of characters being written in each line of the file.**

3. **There are "M" vending machines linked to single petrol tanker with capacity of "L" litres. "$n_{i,\ where\ 0<i<=M}$" number of customers are coming to each machine in "M" different queues to take some petrol in parallel manner. The vending machine should dispense only if the required amount of petrol is available in the tanker. And after dispensing to each customer the amount of petrol present in the tanker should be updated. Write a C program using thread for the petrol dispensing system.**