

# Assignment 4

## Operating System Lab (CS342)

### Department of CSE, IIT Patna

Date:- 09-Feb-2021 Deadline:- 09-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 , eg. 1501cs11.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/edw6McXHR1SUvtTat5o8>

#### Questions:

1. Write a program in C to create a child process using a "fork" system call and convert it to a zombie process. Show that the child process becomes a zombie process.
2. Create a child process and make it an orphan process. What is the significance of the orphan process?
3. Write a C program that will create a child process to generate a Fibonacci series of specified length and store it in an array. The parent process will wait for the child to complete its task and then display the Fibonacci series and then display the prime Fibonacci number in the series along with its position.

4. Write a C program that will create three child process to perform the following operations respectively:
  - First child will copy the content of file1 to file2.
  - Second child will display the content of file2.
  - Third child will display the sorted content of file2 in reverse order.
  - Each child process being created will display its id and its parent process id with appropriate message.