

CSI1002 Operating System Principles

LAB CAT 1

27-AUGUST-2020

Instructions:

- **YourQuestionNumber = (LastDigitOfYourRegisterNumber + 1) % 5**
- **Prepare a document with the following and save in your register number (as file name)**
 - **Register Number and Name**
 - **Question**
 - **Source Code**
 - **Snapshot of execution results**

Questions

0. a) Write BASH script to print 'N' terms in the series 1, 1, 1, 2, 3, 4, 6, 9, 13,
Let the script repeat the above process 'n' times.

b) Write a C program to create a child process and let the child process check if the string input by the user is a “Heterogram”. Ensure that the process creation is not leading to an orphan state.

Note: A heterogram is a word, phrase, or sentence in which no letter of the alphabet occurs more than once.

Example: Orange (every letter is unique)

1. a) Write BASH script to print 'N' terms in the series 1000, 500, 250, 125, ...
Let the script repeat the above process 'n' times.

b) Write a C program to create a child process and let the child process check if the string input by the user is a “2-Isogram”. Ensure that the process creation is not leading to an orphan state.

Note: A 2-Isogram is a word in which every featured letter appears twice.

Example: Oppo

Noon

2. a) Write BASH script to print 'N' terms in the series 0, 3, 8, 15, 24, 35,.....
Let the script repeat the above process 'n' times.

b) Write a C program to create a child process and let the child process check if the string input by the user is a “Tautonym”. Ensure that the process creation is not leading to an orphan state.

Note: A tautonym is a scientific name of a species in which both parts (generic name and specific name) of the name have the same spelling.

Example: Bison bison

3. a) Write BASH script to print 'N' terms in the series 0, 2, 8, 26, 80,

Let the script repeat the above process 'n' times.

b) Write a C program to create a child process and let the child process check if the string input by the user contains all the vowels appearing exactly once. Ensure that the process creation is not leading to an orphan state.

4. a) Write BASH script to print 'N' terms in the series 0, 7, 26, 63, 124, 215, 342, 511,

Let the script repeat the above process 'n' times.

b) Write a C program to create a child process and let the child process squeeze/squash all spaces more than one into one space in the string input by the user. Finally print the updated string which contains one space between two words. Ensure that the process creation is not leading to an orphan state.

Example:

Input:

I am in OSP lab CAT.

Output:

I am in OSP lab CAT.
