Course Name : PG Diploma in Advanced Computing
Batch : August 2019
Module Name : Operating Systems Concepts

Date : _____

Student Name : _____

Max Marks : 40 Marks

PRN No : _____

Duration : 2 Hours

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1. Write a Shell Script Program to print the Armstrong numbers from 1 to 50000 and also print the sum of all Armstrong numbers between these ranges. **[15 Marks]**

2. Write a Shell Script in Linux to accept two numbers as command line parameter and print the series using the function shown below: **[15 Marks]**

$$S = 1 + \frac{X+2}{2} + \frac{X+3}{3} + \ldots$$

The first input should be for 'X' and second for 'n' as per the function shown above. In the end the script should print the sum of series printed.
For Example: If input is 2 3
Output should be
1, 2, 1.6
Sum = 4.6

Evaluation of Lab Exam should be based on the following criteria:

Criteria	Details	Max Marks	Marks Obtain
Efficiency	Documentation of Algorithm and Flowchart		
	Program adheres to the algorithm and flowchart		
	Program is using only the required number of variables /conditions/loops/pointers etc and is optimal		
	The program produces desired output for a given input		
	The program handles all valid and Invalid inputs		
	The program has meaning variable/function names		
	The program is commented properly (At least 20% of the code should be commented)		
Viva		10	
	Total Marks	**40**	

_____   _____   _____
Signature of Student   **Signature of Evaluator**   **Signature of Coordinator**

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1. Write script to print sum of all digits in a given number. **[10 Marks]**

2. Write shell script using for loop to print the following pattern on screen. **[10 Marks]**

```
1
22
333
4444
55555
```

3. Write a C Program to create a three threads and execute the threads with proper error conditions. Use pthread.h header file and its methods. **[10 Marks]**

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1. Write a menu driven shell script which will print the following menu and execute the given task to display result on standard output. [Use Case Statement of Shell Script Programming]

   [20 Marks]

   a. Display calendar of current month
   b. Display today's date and time
   c. Display usernames those are currently logged in the system
   d. Displaying your current working directory.
   e. To print all the directories and subdirectories in the /home/cdac/Downloads folder
   f. To create a tar file and see the contents of tar files
   g. To create a record.txt file and add the contents with inside it and also append the contents into it and show the contents on the screen.
   h. Exit

2. Write script to reverse digits in a given number. Take input from user.   **[10 Marks]**

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1. Write a shell script to check entered string is palindrome or not.

   [10 Marks]

2. Write a script to find out the biggest number from three given nos. Supply inputs as command line arguments. Print an error message if sufficient arguments are not supplied. **[10 Marks]**

3. Write script to reverse digits in a given number. Take input from user. **[10 Marks]**

Evaluation of Lab Exam should be based on the following criteria:

Criteria	Details	Max Marks	Marks Obtain
Efficiency	Documentation of Algorithm and Flowchart		
	Program adheres to the algorithm and flowchart		
	Program is using only the required number of variables /conditions/loops/pointers etc and is optimal		
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Viva		10	
	Total Marks	**40**	

_____   _____   _____
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