Section 16

PDS Lab **Assignment - 3** **14.08.2018**

Instructions:

*Create a sub directory named as **Lab3**.*

Give the name of the programs as <p>_1.c, <p>_2.c, .. etc. for the problem 1, 2….., respectively. Here <p> implies the part number. For example, Part-A

*Store all the programs under this assignment in the directory **Lab3**.*
*Zip the entire directory **Lab3** and rename it as **<R>_Lab3_tar.gz**. where <R> denotes your Roll No.*
You should upload your zipped file to the Moodle course web page latest by 11:55 hrs.

Part-A

1. Read an integer number from the keyboard. Write a program to display all the factors of the number. For example, if the input number is 10, then it will print 1, 2, 5 and 10.

2. Read a sequence of integer numbers (terminated by 0) and find the maximum, minimum and average value of the numbers (excluding 0) that have been entered.

3. Read any 4 digits number from the keyboard. Print the number whose digits are in the reverse order to that of the input number. Print the difference between the new and the input numbers. For example, if the number entered is 1234, then it will print the result 4321 and 3087.

Part-B

4. Write a program to find the sum of the following series for a given value of n. (Don't use formula).

$$S = 1 - \frac{1}{3} + \frac{1}{3^2} - \frac{1}{3^3} + \cdots (-1)^n \frac{1}{3^n}$$

5. Write a program to compute and print the taxi fare based on the following chart. Total number of Kilometers traveled will be input by the user as a floating point number.

First 0 -12 KM:	Rs. 100/-
Next 4 KM:	Rs. 8 per KM
Next 4 KM:	Rs. 6 per KM
Above 20 KM:	Rs. 5 per KM

Part-C

6. A number is called a perfect number, if the number is equal to the sum of all its positive divisors except the number itself. For example, (6 = 1 + 2 + 3, 28 = 1 + 2+ 4 + 7 + 14). Find and print all the perfect numbers less than or equal to 1000.

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Submission instruction

Zip your ***Lab3*** directory. Upload your zip file into the Moodle server.