INDIAN SCHOOL AL GHUBRA

CLASS XI COMPUTER SCIENCE 2023-2024

DATE: 22-05-2023 , MONDAY

LAB ASSIGNMENT 12

A school with 600 students wants to produce some information from the results of the four standard tests in Maths, Science, English and IT for a batch of 10 students. Each test is out of 100 marks. The information output should be the highest, lowest and average mark for each test and the highest, lowest and average mark overall. All the marks need to be input.

LAB ASSIGNMENT 13

Write a Python program to print all the Armstrong numbers upto N, the end limit entered by the user.

An Armstrong number is one whose sum of digits raised to the power three equals the number itself. 371, for example, is an Armstrong number because 3\*\*3 + 7\*\*3 + 1\*\*3 = 371.

Also extend you program to check if any given number is an Armstrong number or not.

LAB ASSIGNMENT 14

Write a program that accepts numbers greater than zero, from the user. After every input, the user should be given a choice to continue or not as Yes/No. The program should accept at least 5 numbers from the user. Once the user enters No, the program should terminate. It should thereafter display the maximum and minimum numbers entered till then.

LAB ASSIGNMENT 15

Write a menu driven program to find whether an inputted number is a Perfect number, Abundant number or Deficient number. The program should terminate when the user enters No.

Perfect number, a positive integer that is equal to the sum of its proper divisors. The smallest perfect number is 6, which is the sum of 1, 2, and 3. Other perfect numbers are 28, 496, and 8,128.

In number theory, an abundant number or excessive number is a number for which the sum of its proper divisors is greater than the number itself. The integer 12 is the first abundant number. Its proper divisors are 1, 2, 3, 4 and 6 for a total of 16. The amount by which the sum exceeds the number is the abundance.

In number theory, a deficient number or defective number is a number n for which the sum of divisors σ<2n, or, equivalently, the sum of proper divisors s<n. In other words, deficient number is the one that is larger than its proper divisors. The integer 14 is a deficient number. Its proper divisors are 1,2 and 7, which sums upto 10. 14 is larger than 10.

Proper divisors are defined as the all positive divisors of a number except the number itself.

The positive divisors of 18 are 1,2,3,6,9 and 18. So the proper divisors are 1,2,3,6,9. Similarly the positive divisors of 20 are 1,2,4,5,10 and 20. So the proper divisors are 1,2,4,5,10

LAB ASSIGNMENT 16

Write a program that takes the following inputs from the user:

A symbol (+,-,\* or /) and a natural number which is (>0)

Then using these inputs make a tabular output like the sample given below for the operation from 0 to n

Sample output

