भारतीय सूचना प्रौद्योगिकी संस्थान गुवाहाटी
Indian Institute of Information Technology Guwahati
COMPUTER PROGRAMMING LAB (CS110)
ASSIGNMENTS–04

1. Write a program in C to check whether a triangle is an equilateral, isosceles, or scalene triangle. Consider all sides of the triangles as inputs.

2. Write a program in C to check whether a number is Armstrong or not.

3. Write a program in C to input the basic salary of an employee and calculate his/her gross salary according to the following rules:

    i. If basic salary is up to 30000 rupees, he/she gets 20% HRA and 30% DA.
    ii. If basic salary is up to 60000 rupees but more than 30000 rupees, he/she gets 25% HRA and 35% DA.
    iii. If the basic salary is more than 60000 rupees, he/she gets 30% HRA and 40% DA.

4. Consider a grading scheme as follows:

Marks	Grade
90 — 100	A
80 — 89	B
70 — 79	C
60 — 69	D
50 — 59	E
40 — 49	P
0 — 39	F

Given marks, write a program in C to find the corresponding grade. If the input marks are more than 100 or less than 0, you should assign the grade 'X' to indicate an error with the input marks.

5. Write a program in C to check an input character is in which category of the following two:

i. A small letter and a vowel.

ii. A capital letter and a consonant.

6. Print sum of numbers between 1 to 100 using `while` loop.

7. Print all even numbers between 1 to 100 using `for` loop.

8. Print all Armstrong numbers between 1 to 500.