भारतीय सूचना प्रौद्योगिकी संस्थान गुवाहाटी

Indian Institute of Information Technology Guwahati

COMPUTER PROGRAMMING LAB (CS110)
ASSIGNMENTS–02

[Note: Do not use the `scanf()` function, `if ()` statements or any loop construct.]

1. Write a program in C to initialize a `char` variable as 'a' and print its ASCII value.

2. Write a program in C to find the average of five numbers.

3. Write a program in C to find the area of a circle. The radius of the circle is input.

4. Write a program in C to find the area of a rectangle. The length and width of the rectangle are inputs.

5. Write a C program to find the area of a triangle. The lengths of the sides of the triangle are inputs.

6. Write a program in C to calculate simple interest.

7. Write a program in C to calculate compound interest.

8. Write a program in C to solve a quadratic equation. If the equation is $ax^2 + bx + c = 0$, then a, b, and c are inputs.

9. Write a program in C to compute the area of a circle. The circumference of the circle is input. Consider $\pi = 3.14$.

10. Given the initial velocity (u), acceleration (a), and the time (t), write a program in C to compute the final velocity of an object.

11. Given the initial velocity (u), acceleration (a), and the time (t), write a program in C to compute the final displacement of an object.

12. Write a program in C to convert temperature in ^oC to ^oF.

13. Write a program in C to convert temperature in ^oF to ^oC.

14. Write a program in C to extract the individual digits of a given number (a positive integer) and add them. Assume the number has at most five digits. Do not use any loop construct.

15. Write a program in C to calculate the product of the digits of a five-digit positive integer. Do not use any loop construct.

16. Write a program in C to reverse a five-digit positive integer. For instance, if the number is 13257, the output needs to be 75231. Do not use any loop construct.

17. Write a program in C to check if a five-digit positive integer is palindrome or. For instance, the number is 13531 is a palindrome. Do not use any loop construct. You cannot use any `if ()` statement. If it is a palindrome number, print `Y`. Otherwise, print `N`.

18. Write a C program to swap two `int` variables using a third variable.

19. Write a program in C to swap two `int` variables without using a third variable.

20. Write a program in C to find the maximum of two numbers.

21. Write a program in C to find the minumum of three numbers.

22. Write a program in C to find whether a given number is odd or even. If the number is odd, print `O`. Otherwise, print `E`.You cannot use any `if ()` statement.

23. Write a program in C to find if a year is a leap year. If it is a leap year, print `Y`. Otherwise, print `N`. You cannot use any `if ()` statement.