



भारतीय सूचना प्रौद्योगिकी संस्थान गुवाहाटी
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COMPUTER PROGRAMMING LAB (CS110)
ASSIGNMENTS–02

1. Write a program in C to initialize a char variable as ‘a’ and print it’s ASCII value.
2. Without executing the code, find the output of the following program for value of n in {0,1,5,7,10} . Now execute the code and check with your answers.

```
#include <stdio.h>

int main() {
    int n = 7; // try with 0, 1, 5, 7, 10, and 20
    int condition = 0; // try with 0 and 1

    if (n == 5) {
        printf("1\n");
    } else if (n % 2 == 0) {
        if (n == 10 && condition == 1) {
            printf("2\n");
        } else {
            printf("3\n");
        }
        printf("4\n");
    } else if (condition) {
        printf("5\n");
    } else if (0) {
        printf("6\n");
    } else {
        printf("7\n");
    }

    printf("8\n");

    return 0;
}
```

3. Write a program in C to find whether a given number is odd or even.

4. Write a program in C to check whether a number is divisible by either 7 or 13, or not.
5. Write a program in C to check whether a number is divisible only by either of 7 and 13 (but not both), or not.
6. Write a program in C to find the maximum of two numbers.
7. Write a program in C to check whether a character is an alphabet in English or not.
8. Write a program in C to check whether a character is a vowel or consonant.
9. 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.
10. 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. Solve this twice, one with logical operators another without logical operators.
11. 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.
12. 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.
13. Write a program in C to find a minimum of three numbers. First try without `&&`, `||`. Then try with `&&`, `||`