भारतीय सूचना प्रौद्योगिकी संस्थान गुवाहाटी

Indian Institute of Information Technology Guwahati

COMPUTER PROGRAMMING LAB (CS110)
ASSIGNMENTS–02

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

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

3. 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 3 digits. Do not use any loop construct.

4. Write a program in C to reverse a three-digit positive integer. For instance, if the number is 132, the output needs to be 231. Do not use any loop construct.

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

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

7. Write a program in C to initialize a `char` variable as 'a' and print it's ASCII value.

8. 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.

```
1  #include <stdio.h>
2
3  int main()  {
4    int n = 7; // try with 0, 1, 5, 7, 10, and 20
5    int condition = 0; // try with 0 and 1
6
7    if (n == 5) {
8      printf("1\n");
9    } else if (n % 2 == 0) {
10     if (n == 10 && condition == 1) {
11       printf("2\n" );
12     } else {
13       printf("3\n");
14     }
15     printf("4\n",  );
16   } else if (condition) {
```

```
17      printf("5\n");
18    } else if (0) {
19      printf("6\n");
20    } else {
21      printf("7\n");
22    }
23
24    printf("8\n");
25
26    return 0;
27 }
```

9. 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 three digits. Do not use any loop construct.

10. Write a program in C to reverse a three-digit positive integer. For instance, if the number is 257, the output needs to be 752. Do not use any loop construct.

11. Write a program in C to find the maximum of two numbers without using IF statement.
    Hint:
    ```
    int max = a > b ?  a :  b;
    ```