Practice Problems

1. Write a C program to enter the radius of a circle and find its circumference and area. Note that Circumference = $2 \times \pi \times (radius)$, Area = $\pi \times (radius)^2$, and assume $\pi = 3.1416$

   Sample Input: 2

   Sample Output: Circumference = 12.56 and Area = 12.56

2. Write a C program to calculate and display the total salary of an employee considering that total salary is the sum of basic salary and house rent. The program must ask the user for the basic salary and percentage of basic salary which determines the house rent.

   Sample Input: 25000 10

   Sample Output: 27500

3. Write a C program that takes number of days as input, and then converts it into years and days, and displays the results. Assume that, 1 year = 365 days.

   Sample Input: 735

   Sample Output: 2 years 5 days

4. Convert Celsius temperature to Fahrenheit. Note that, $F = \frac{9}{5}C + 32$

   Sample Input: 20

   Sample Output: 68

5. Write a C program to take a letter from the English alphabet as input and display both the previous and the next letters with ASCII codes. Assume that input will always be chosen from B to Y or b to y.

   Sample Input: d

   Sample Output:

   Previous letter with ASCII: c 99

   Next letter with ASCII: e 101

6. Print the value of y for given x=2 & z=4 and analyze the output.

   a. y = x++ + ++x;

   b. y= ++x + ++x;

   c. y= ++x + ++x + ++x;

   d. y = x>z;

   e. y= x>z? x:z;

   f. y = x&z;

7. Write a program to find the largest and smallest among three entered numbers and also display whether the identified largest/smallest number is even or odd.

8. Find the letter grade of a given mark. Follow the grading system of ULAB.

9. Write a program to input a letter and display it in opposite case, i.e., if the given letter is in upper case, display it in lower case and vice-versa.

10. Write a program to check whether the entered year is leap year or not (a year is leap if it is divisible by 4 and divisible by 100 or 400.)

11. Write a program that will give a choice menu. Using switch for coding. Take two inputs and one operator and do the calculation.

    Press '+': Add two number

    Press '-': Subtract two number

    Press '*': Multiply two number

    Press '/': Division two number

    Sample Input: 8 / 10

    Sample Output: 0.80

12. Write down a program that will take three integers as input and will print the second largest of the three.

13. Write a program to input a letter and display it in opposite case, i.e., if the given letter is in upper case, display it in lower case and vice-versa.

14. Write a program to input two integer numbers and display the sum of even numbers between these two input numbers.

15. Write a program to find GCD (greatest common divisor or HCF) and LCM (least common multiple) of two numbers.

16. Write a program using while/do while /for Loop to calculate the factorial value of any integer entered through the keyboard.

    Sample Input: 5

    Sample Output: 120

17. Write a program that prints the number of digits in an integer number.

    Sample Input: 2102

    Sample Output: 4

18. Write a program that prints all factors of a given number.

    Sample Input: 28

    Sample Output: 1, 2, 4, 7, 14, 28