Lab 04 TASKS

1. For the following statements:
   a)
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   int x;
   int y = x;
   ```
   b)
   ```
   int a1 = 2;
   3 = a1;
   ```
   c) (a+b)++;

   d) ++(a+b);

   e) a++a;

Describe the reason of error?

2. 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-- - --x;
   e. y= x-- + --x
   f. y= (x==2)&&(z>3)
   g. y= (x==3) || (z>3)
   h. y= !(z>=4)
   i. y = x>z;
   j. y = x&z;
   k. y= x>>2 + z<<1;

3. Calculate the addition, subtraction, multiplication and division of two numbers using variable num1 and num2 and print the result without any third variable.

4. State the order of evaluation of the operators in each of the following C statements and show the value of x after each statement is performed.
   a) x = 9 % 3 * 7 / 8 – 4*2;
   b) x = 4 /2 + 6 % 2 *9 / 3;
   c) x = (2 * 3 / (3 + (9 - 3 / (3))));

5. Use Math.h functions to perform tasks given below

   a. Consider the age of a person is 25.38. You are required to calculate the floor, ceil, power by 2, square root and absolute value of the age.

b. Calculate all the trigonometric functions including (sin, cos, tan) of x entered by user.

6. Write a C program to convert specified days into years, weeks and days.
   Note: Ignore leap year.

7. Write a C program to convert a given integer (in seconds) to hours, minutes and seconds.

8. Calculate the simple and compound interest by using principle, time and rate values.
   Hint:

$$si = (p \times r \times t) \div 100$$
$$ci = p \times (1 + r \div 100)^{t\text{-}p}$$

9. Write a program to calculate the sum of the first and the second last digit of a 5 digit number entered from the keyboard.

10. Initialize 3 variable as a= 10, b=20 and c=30, swap the values of variables like a=30, b=10 and c=20 using only one extra variable.