Lab 2

Problems:

1. Take the input of a three digited integer number (eg 325). Extract each of the digits in separate variables and display the sum and product of the digits.
2. Take a user input integer and check if it is even or not.
3. Take two user input floats. Display the greater number.
    a. Use if statements
    b. Use conditional operator
4. The marks obtained by a student in 3 different subjects (out of 100) are input through the keyboard.
    a. Calculate average%. Print passed or not, pass marks = 60.
    b. Output the grade according to the following decision rules, first without logical operators and then using logical operators
        i. >=95 – Grade Ex
        ii. 90-94 – Grade A
        iii. 80-89 – Grade B
        iv. 70-79 – Grade C
        v. 60-69 – Grade D
        vi. <60 – Failed
5. Take the input of three points A(x1,y1), B(x2,y2), and C(x3,y3) in a 2D plane. Check the following:
    a. If they form a valid triangle or not. Display an appropriate message.
    b. If they form a valid triangle, what type of triangle it is:
        i. Scalene
        ii. Isosceles
        iii. Equilateral

6. Write a menu driven program which has following options for two user input integers: Use switch case.
    1. Add.
    2. Subtract
    3. Multiply
    4. Divide
    5. Print Bye and exit

Extra Problems:

1. Suppose the digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are mapped to the lowercase letters a, b, c, d, e, f, g, h, i, j respectively. Read in a single digit integer as a character (using %c in scanf) and print its corresponding lowercase letter. Do this both using switch and without using switch (two programs). Do not use any ascii code value directly.
2. We are given eight integers in the input to a C program, out of which only one is different. We wish to print the value of the unique distinct integer and determine the variable in the input order corresponding to the distinct value. Use a single scanf statement to read all the eight integers, say, a; b; c; d; e; f; g and h. Do not use arrays/recursion. Use if-else only.
    a. For example, if the sequence is 1 1 1 1 1 2 1 1 then we must print:

    The 6th element of value 2 is the unique distinct value.