CL1002 – Programming Fundamentals Lab

Assignment # 01

Note:

- Submit a pdf file containing all of your C code with all possible screenshots of every task output on Google Classroom.
- Copied tasks will be awarded **zero** marks without any investigation.
- Comments you code properly.
- Note that these assignment marks could be graded through a viva (quiz) in the lab.
- Please submit your file in this format (roll-no-name) i.e (22P-8743-Zain.pdf).

Problem: 1

Write a program that converts Celsius to Fahrenheit through a function.

- Ask the user to enter the celsius value in main function.
- Create a function named **celsiusToFahrenheit**(int celsius) which would take celsius value as input paramter.
- The function will calculate the Fahrenheit value and return it to main.
- The program should print value of Fahrenheit in main .

The formula to calculate the fahrenheit value is given below.

$$F = \frac{9}{5}C + 32$$

Problem: 2

Write a program that check whether a year is leap year or not? create a function named isLeap has an formal parameter, year, determines whether the year is a leap year, or not and print the message to that effect. A year is a leap year if it is divisible by 4 but is not divisible by 100 except when divisible by 400.
You should ask user to enter year in main and pass its value to function
Hint :(use conditional statements)
For example,
• 1999 is not a leap year
• 2000 is a leap year

• 2004 is a leap year
• 1000 is not a leap year

Problem: 3

Write a program that prompts the user to enter the total number of cookies, the number of cookies in a box, and the number of cookie boxes in a container. The program then outputs the number of Boxes and the number of containers to ship the cookies. Note that each box must contain the specified number of cookies, and each container must contain the specified number of boxes.
If the last box of cookies contains less than the number of specified cookies, you can discard it and output the number of leftover cookies. Similarly, if the last container contains less than the number of specified boxes, you can discard it and output the number of leftover boxes.

Problem: 4

The following table contains earthquake magnitude ranges on the Richter

scale and their descriptors:

Magnitude	Descriptor
Less than 2.0	Micro
2.0 to less than 3.0	Very minor
3.0 to less than 4.0	Minor
4.0 to less than 5.0	Light
5.0 to less than 6.0	Moderate
6.0 to less than 7.0	Strong
7.0 to less than 8.0	Major
8.0 to less than 10.0	Great
10.0 or more	Meteoric

Write a program that reads magnitude from the user and displays the

appropriate descriptor as part of a meaningful message. For example, if the

user enters 5.5 then your program should indicate that a magnitude 5.5

earthquake is considered to be a moderate earthquake.

Problem: 5

Write a program that examines three variables—x, y, and z—and

prints the largest odd number among them. If none of them are odd, it should

print a message to that effect.

Note: You have to take three values from user.

Sample Output:

```
Enter an number
x:5
Enter a second number
y:13
Enter a third number
z:7
13  is the greatest odd number among them.
```

```
Enter an number
x:7
Enter a second number
y:7
Enter a third number
z:7
7  is the greatest odd number among them.
```

```
Enter an number
x:4
Enter a second number
y:3
Enter a third number
z:10
3  is the greatest odd number among them.
```

```
Enter an number
x:4
Enter a second number
y:6
Enter a third number
z:8
None of them is odd
```

Problem: 6

Write a **C Function** to check a triangle is equilateral, isosceles or scalene. .Your program should ask the **user to input x,y,z values**

Note :
An equilateral triangle is a triangle in which all three sides are equal.
A scalene triangle is a triangle that has three unequal sides.
An isosceles triangle is a triangle with (at least) two equal sides.

Output:

```
Input lengths of the triangle sides:
x: 12
y: 12
z: 12
Equilateral triangle

Input lengths of the triangle sides:
x: 12
y: 12
z: 13
isosceles triangle
```

Problem: 7

Suppose that the cost of sending an international fax is calculated as follows:

Service charges $3.00; $.20 per page for the first 10 pages; and $0.10 for each additional page. Design a function that takes the number of pages to be faxed as a parameter. The Function then uses the number of pages to be faxed to calculate and return the amount due.

Ask user to enter number of pages and pass it to function