Assignment-1

Problem-1 (3 points):

What are syntax errors, runtime errors, and logic errors? Please give an example for each type of errors.

Problem-2 (3 points):

Show the result of the following arithmetic operations:

56 % 6

2 + 78 % 4

(34 % 5) / 3

2 * 5 / 5 + 3 - 34 % 15

5 % ((13 % 12) – 1)

Problem-3 (6 points):

Write a complete C++ program that prompts the user to enter an integer number and reads that number from the keyboard.

- If the entered number is negative, your program should print the following message: "The program doesn't accept negative numbers" and stop the execution.
- If the entered number is positive and less or equal 100 (between 0 to 100), the program should check and display whether the number is divisible by 4 or not. Also, your program **must** display quotient and remainder.
- If the entered number is greater than 100, your program should print square root of the given number.

  Here is a sample run:

  1)

```
Enter an integer number to see if the given number is divisible by 4 or not: -16
The program does not accept negative numbers
```

2)

```
Enter an integer number to see if the given number is divisible by 4 or not: 16
The given number (16) is divisible by 4
Quotient: 4 and Remainder: 0
```

3)

```
Enter an integer number to see if the given number is divisible by 4 or not: 15
The given number (15) is not divisible by 4
Quotient: 3 and Remainder: 3
```

4)

```
Enter an integer number to see if the given number is divisible by 4 or not: 121
The entered number is greater than 100 and square root of the number is 11
```

Problem-4 (6 points):

Assume a vendor sells 5553 grams of grocery in 2 hours, 9 minutes, and 30 seconds. Write a program that displays the average sale in kilograms per hour (Note that 1 kilogram is 1000 grams).

Problem-5 (5 points):

Write a program that receives an ASCII code (an integer between 0 and 127) and displays its character. Here is a sample run:

```
Enter an ASCII code: 69 ↵Enter
The character is E
```

Problem-6 (7 points):

Write a program that reads an integer between 0 and 1000 and adds all the digits in the integer. For example, if an integer is 932, the sum of all its digits is 14.

Hint: Use the % operator to extract digits and use the / operator to remove the extracted digit. For instance, 932 % 10 = 2 and 932 / 10 = 93.

Here is a sample run:

```
Enter a number between 0 and 1000: 999 Enter
The sum of the digits is 27
```

Rubric for Implementation Problems

0%	25%	50%	75%	100%
Source code files were not provided. Problem solution was not submitted.	Significant assignment requirements were ignored or violated. Program doesn't compile.	The output of the program was not shown. Lack of comments. Pour code readability (inconsistent indentation, variable naming, general organization)	Choosing a poorly approach to solve a problem, for example, solving a problem with hard coding instead of using a loop. Minor details of the program specifications were violated.	Program works correctly and meets the requirements of the assignment. Code is clean, well-organized, and well commented.

What to Hand In

You should upload a pdf file for Problem-1 and Problem-2. For the other problems, save your .cpp files as FirstName_LastName_ProbX_Assignment1.cpp (for example, Carina_Winters_Prob5_Assignment1.cpp). Please submit (upload) your source codes (four .cpp files) and provide snapshots of all your results after running your code. Use a word or pdf file to show your results.