ASE Exercise 1 (Fall 2021)

Task 1 (Basic)

1. Create a project in Eclipse named “Exercise One”
2. Create a new class in the project and name it “TaskOne”
3. Implement the following behavior in your main method and execute it:
    a. Create a “float” variable named “x” and assign it the value “-2.6”
    b. Create a “float” variable named “y” and assign it the value “9.4”
    c. Subtract “x” from “y” and store the value (i.e. 9.4 – (-2.6) = 12) in another “float” variable named “z”
    d. Print the following statement in the console where 12 corresponds to the value of “z”

    “The result of subtracting x from y is: 12”

    e. Change the value of “x” and “y” and see if your application still prints the correct result.
4. **Extension:** Print the same statement with correct results, but only use the variable “x” and “y”. Do not use the variable “z”.

Task 2 (Basic)

1. Create another class called “TaskTwo” in the project you just created.
2. Implement the “main” method so that iterates through all the numbers between 1 and 100 and prints the following:
    a. If the number is a multiple of “5”, print nothing to the console
    b. If the number is a multiple of “10” then print only a new line in the console
    c. For all other numbers, print the number itself followed by a space.
    d. Your output should look as follows:

```
1 2 3 4 6 7 8 9
11 12 13 14 16 17 18 19
21 22 23 24 26 27 28 29
31 32 33 34 36 37 38 39
41 42 43 44 46 47 48 49
51 52 53 54 56 57 58 59
61 62 63 64 66 67 68 69
71 72 73 74 76 77 78 79
81 82 83 84 86 87 88 89
91 92 93 94 96 97 98 99
```

3. **Hint:** You can use the “%” a.k.a. modulo arithmetic operator to see if a number is dividable by “5” or “10”.

Task 3 (Basic+)

1. Create a new class called “TaskThree” in the same project.
2. Implement the “main” method of the class as follows:
    1. Create an array named “values” to store 7 integer numbers
    2. Initialize the array with the numbers: 13, 9, 22, 49, 5, -27, -8
    3. Calculate the cumulative sum of the array until each number and print them as follows:

       “The sum of the array until number 22 is: 44”

       where 22 is the third number in the array. The cumulative sum until 22 is:
       13 + 9 + 22 = 44.
    4. The complete output of the program should look like:

```
The sum of the array until number 13 is: 13
The sum of the array until number 9 is: 22
The sum of the array until number 22 is: 44
The sum of the array until number 49 is: 93
The sum of the array until number 5 is: 98
The sum of the array until number -27 is: 71
The sum of the array until number -8 is: 63
```

    5. Try to change the numbers in the array and see if your output is still correct.
3. **Hint:** You might need to use additional variables to store the cumulative sum.
4. **Extension:** Instead of the cumulative sum, calculate the cumulative average until a number. The result will look as follows:

```
The average of the array until number 13 is: 13.0
The average of the array until number 9 is: 11.0
The average of the array until number 22 is: 14.666666666666666
The average of the array until number 49 is: 23.25
The average of the array until number 5 is: 19.6
The average of the array until number -27 is: 11.833333333333334
The average of the array until number -8 is: 9.0
```