

## **LAB#07 EXERCISES**

### **INSTRUCTIONS:**

**NOTE:** Violation of any of the following instructions may lead to the cancellation of your submission.

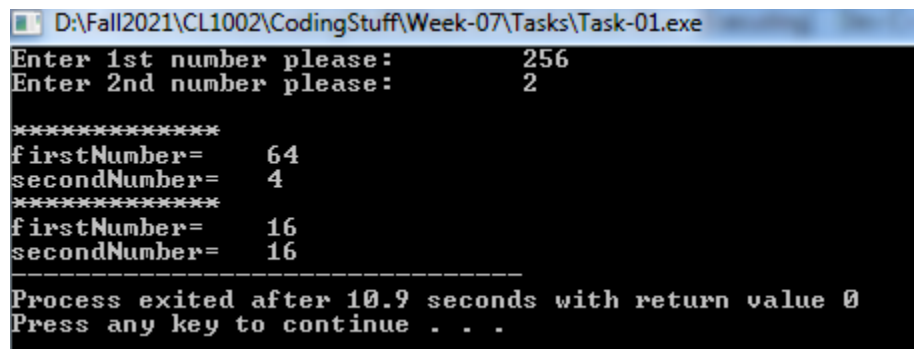
- 1) Create a folder and name it by your student id (k16-1234).
- 2) Paste the .c (Save as type) file for each question with the names such as Q1.c, Q2.c and so on into that folder.

**ARRAYS ARE NOT ALLOWED TO BE USED FOR SOLVING THE FOLLOWING EXERCISES.**

**Task 01:** You are taking two numbers as input from user, let's consider first number is 256 and the second number is 2. After taking the input the first number is shifted two places to the right and the second number is doubled. The user wants you to write a program which meets the above mentioned requirements until the both the inputs become equal.

**Note:** Use while loop only

*Your output may look like as following **Figure 1: Task-01:***



```
D:\Fall2021\CL1002\CodingStuff\Week-07\Tasks\Task-01.exe
Enter 1st number please:      256
Enter 2nd number please:      2

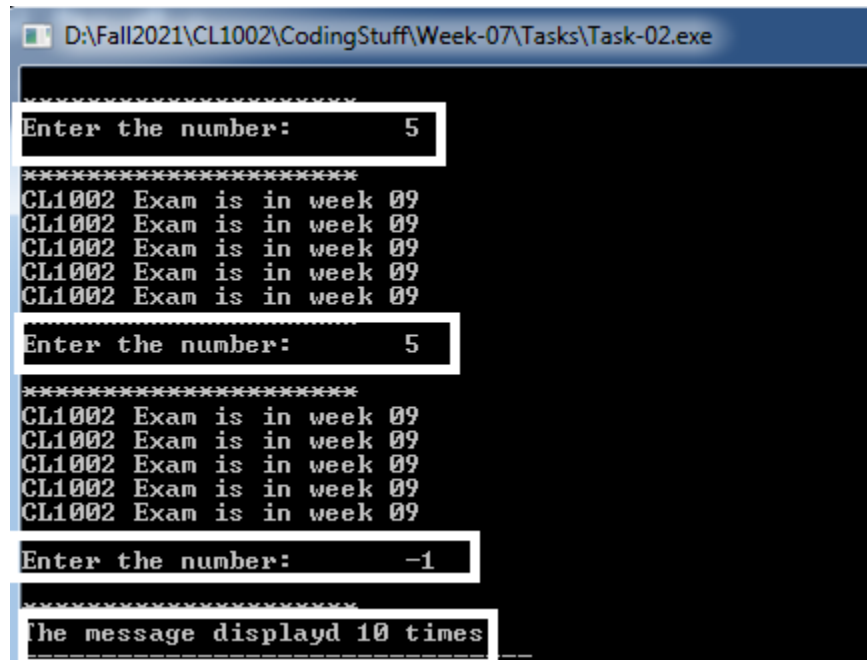
*****
firstNumber=      64
secondNumber=      4
*****
firstNumber=      16
secondNumber=      16
-----
Process exited after 10.9 seconds with return value 0
Press any key to continue . . .
```

**Figure 2: Task-01**

**Task 02:** As your CL1002 exam is to be conducted in coming week-09. You are practicing for your exam, you thought to write a program which can takes an integer number as input and displays the message "CL1002 Exam is in week 09" number of times equal to the integer entered. You are also applying a constraint if the user continuously entering positive integer as input then your program executes as you enter a negative integer your program exits and returns the total number of times message displayed. Write the code for the above mentioned scenario which you thought.

**Note:** Use while loop and break statement only

*Your output may look like as following **figure 2: Task-02:***



```
D:\Fall2021\CL1002\CodingStuff\Week-07\Tasks\Task-02.exe

*****
Enter the number: 5
*****
CL1002 Exam is in week 09
CL1002 Exam is in week 09
CL1002 Exam is in week 09
CL1002 Exam is in week 09
CL1002 Exam is in week 09
*****
Enter the number: 5
*****
CL1002 Exam is in week 09
CL1002 Exam is in week 09
CL1002 Exam is in week 09
CL1002 Exam is in week 09
CL1002 Exam is in week 09
*****
Enter the number: -1
*****
The message displayd 10 times
```

**Figure 2: Task 02**

**Task 03:** You joined ACM society at your University and you assigned with a task for simulating the ticket procedure for 500 participants. you are asked to write a program for the mentioned task with following operations:

1. Purchase a ticket. The ticket price is PKR 100 for sophomores and 50 for juniors. You also offer 20% discounts who buy mora than 3 tickets.
2. Displaying the number of seats available free and the total amount of sold tickets.
3. Termination of the program.

**\*Use while loop and switch statement\* \*Your output be as in given\* Figure 3: Task-03\***

#### **Task 04:**

let us consider that you are given a task of writing code which can takes integer inputs from the user continuously and returns the square of the odd numbers till the user enter integer within range (15,25). Your code should also provide the information that how many input integers are negative and how many are positive and how many are in range (100-200).

**hint (Zero is neither nor positive not negative), Use do while loop only**

**Your output be as in given figure 4: Task 04:**

#### **Task 05:**

You want to teach multiplication table to your brother/sister. For this purpose, you write a program which generates two random numbers within range (1-10) for (example x and y) and display  $x*y$  in such way that the smallest number appears first. Your written code should ask your brother/sister to input his/her answer. Then your code should compare the entered answer and returns a message with wrong (along with correct answer) or correct on the screen. As your brother/sister enter -1 then your code will terminate by displaying the total number of correct and wrong answers.

Your output may be as follows:

```
D:\Fall2021\CL1002\CodingStuff\Week-07\Tasks\Task-05.exe

4x5=20
Correct

3x3=8
Wrong!
answer=9

5x5=-1
Fails = 1, Pass = 1
```

**Figure 3: Task -05**

**Task 06:**

Write a program which asks user to enter integer value as input, if input is within range (11-19), then your code should display the message "Welcome to CL1002" number of time equal to input integer. If the input integer is not in given range then your code should read all numbers, display a number as negative if in case negative and returns the sum of all entered integers. **Note. Use for loop and condition statement.**

**Task 07:**

Sir. Shahzad give you CS1002 quiz which contains 10 different questions of multiple choice, each of which has three possible solutions one is easy, one moderate and one of difficult level. The difficult solution carries three marks, moderate carry one mark and easy carries three marks. write a program which reads your solution and returns the final score on the screen. As the quiz is MCQ's based so you should enter the answer with range (1-3) only.

1. Difficult choice
2. Moderate choice
3. Easy choice

**Note. Use for loop.**

**Your answer may look like as follows**

```
D:\Fall2021\CL1002\CodingStuff\Week-07\Tasks\Task-07.exe

Enter your choice:[1-3] 1
Enter your choice:[1-3] 2
Enter your choice:[1-3] 3
Enter your choice:[1-3] 5

Error: Wrong answer ...

Enter your choice:[1-3] 3
Enter your choice:[1-3] 3
Enter your choice:[1-3] 2
Enter your choice:[1-3] 2
Enter your choice:[1-3] 2
Enter your choice:[1-3] 3
Candidate gets 15 points in total
```

**Task 08:**

you are asked by Sir. Shahzad to write a program which can help him in your subject grading. He gives you the following requirements:

1. Reads the grades of 10 students in CL1002, CS1002 and CS2007.
2. Returns the average grade in each course.
3. Average grade of all students in all courses

Write a c program which meet above mentioned requirements. Use for loop

```
Menu selections
##*-*-*-*-*-*-*-*-*-*##
1. Purchase Ticket
2. Display Information
3. Exit
##*-*-*-*-*-*-*-*-*-*##
Enter your Choice Pleas -: 1
How many tickets would you like to buy? 501
Sorry, the available seats are 500
Menu selections
##*-*-*-*-*-*-*-*-*-*##
1. Purchase Ticket
2. Display Information
3. Exit
##*-*-*-*-*-*-*-*-*-*##
Enter your Choice Pleas -: 1
How many tickets would you like to buy? 250
How many Sopho? 125
How many Juniors? 125
Menu selections
##*-*-*-*-*-*-*-*-*-*##
1. Purchase Ticket
2. Display Information
3. Exit
##*-*-*-*-*-*-*-*-*-*##
Enter your Choice Pleas -: 2
Free seats: 250 Income: 11250.00
Menu selections
##*-*-*-*-*-*-*-*-*-*##
1. Purchase Ticket
2. Display Information
3. Exit
##*-*-*-*-*-*-*-*-*-*##
Enter your Choice Pleas -: 3
-----
Process exited after 42.37 seconds with return value 0
Press any key to continue . . .
```

Figure 3: Task-03

```
D:\Fall2021\CL1002\CodingStuff\Week-07\Tasks\Task-04.exe
Enter number: 100
Enter number: 200
Enter number: 100
Enter number: 200
Enter number: 3
Square of the given number is = 9
Enter number: 5
Square of the given number is = 25
Enter number: -7
Square of the given number is = 49
Enter number: -151
Square of the given number is = 22801
Enter number: 16
Postive Numbers = 7 Negative Numbers = 2 Total Count of [100-200] = 4

-----
Process exited after 29.43 seconds with return value 0
Press any key to continue . . .
```

**Figure 4: Task 04**