Midterm lab examination 2022

Course Title:	Programming fundamentals		Course Code:		CSC241	Credit Hours:	4(3,1)
Course instructor:	Dr. Shahbaz Akhtar		Programme Name:		BCS		
Semester:	3rd	Batch: SP22-BCS	Section:	A		Date:	22-05-2022
Time Allowed:	**100 Minutes**		**Maximum Marks:**			**50**	
Student's Name:	**Aoun-Haider**		Reg. No.	CUI -FA21 -BSE -133 /LHR			

Important Instructions / Guidelines:
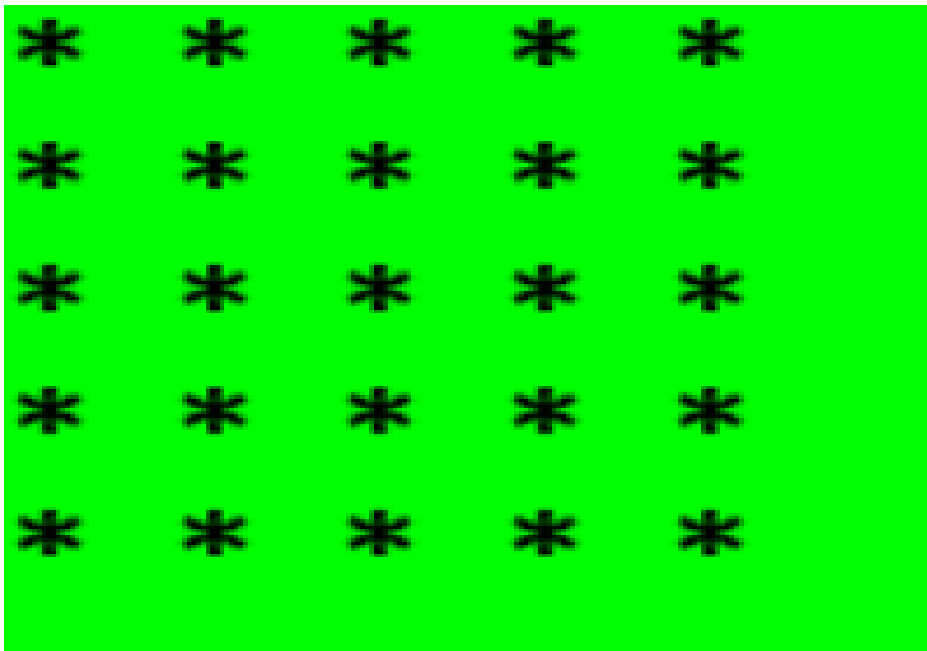
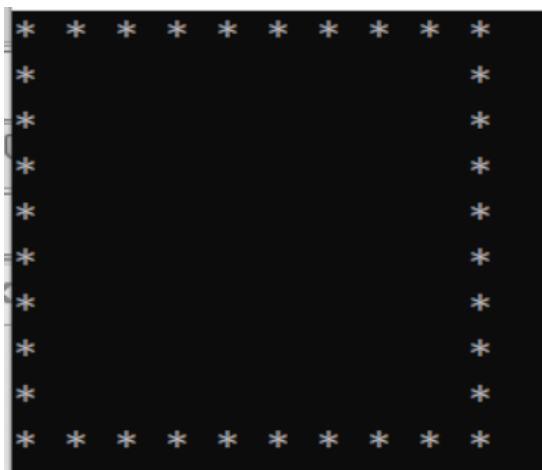• Consider C++ language for all answers and return question papers at the end of exam.

QNO:01 CLO [02]   **[15]**

You must print different shapes using nested loops (for/while):

2)

3)

```
*

*  *

*  *  *

*  *  *  *
```

4)

```
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**

*
```

5)

```
Enter Height: 4
      *
     * *
    * * *
   * * * *
```

6)

```
        1
       1 2
      1 2 3
     1 2 3 4
    1 2 3 4 5
     1 2 3 4
      1 2 3
       1 2
        1
```

Qno:02 CLO [01]   **[20]**

1) Take input from user a 4-bit integer and separate it by space through function calling
    i.e.
          "Enter number number> 1234"
          Output: 1   2   3   4
2) Print the same 4-bit integer in reverse order.
    i.e.
          "Enter number number> 1234"
          Output: 4321
3) Print Fanconi series till the user wants through function.
4) Find factorial, power, square of user entered number.
5) What will be the value of 'K' after execution?
    int k=0;
    for(int i=0;i<23;i++) {
    for(int j=0;j<56;j++) {
    for(int s=0;s<70;s++) {
    for(int d=0;d<5;d++) {
        k+=1;
    }
   }
  }
}
6) Find the sum of 4-bit integer.
    i.e.
          "Enter number number> 1234"
          Sum: 1+2+3+4=>10

7) Detect the sequence and find its recursive formula and implement and print the sequence from your derived formula of sequence. It may be arithmetic or geometric sequence.

   Seq: 1/5,1/25,1/125………………

8) In which concept value changes, call by value or call by reference?

9) Describe automatic, global, local, constant, static and flag variables.

10) Define ceil() and floor() functions.

Good Luck!!