

Programming Fundamentals

Assignment 2

Due Date: 8th April 2022

Max Marks: 30

Section: 2Q,2D

Instructions:

1. Zero tolerance on plagiarism
2. For all program take the value of N from user.

Task 1:

Write a C++ Program to print a pattern as shown in the example for a given integer value.

Examples:

Input: N = 4

Output:

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

Input: N = 7

Output:

```
7 7 7 7 7 7 7 7 7 7 7 7 7
7 6 6 6 6 6 6 6 6 6 6 6 7
7 6 5 5 5 5 5 5 5 5 5 6 7
7 6 5 4 4 4 4 4 4 4 5 6 7
7 6 5 4 3 3 3 3 3 4 5 6 7
7 6 5 4 3 2 2 2 3 4 5 6 7
7 6 5 4 3 2 1 2 3 4 5 6 7
7 6 5 4 3 2 2 2 3 4 5 6 7
7 6 5 4 3 3 3 3 3 4 5 6 7
7 6 5 4 4 4 4 4 4 4 5 6 7
7 6 5 5 5 5 5 5 5 5 5 6 7
7 6 6 6 6 6 6 6 6 6 6 7
7 7 7 7 7 7 7 7 7 7 7 7 7
```

Task 2:

Write a C++ Program to print a pattern as shown below

```
2
3  5
7  11 13
17 19 23 29
31 37 41 43 47
```

Task 3:

Write a C++ Program to print a pattern as shown below:

```
*
* * *
* * * * *
* * *
*
```

Task 4:

Write a C++ Program to print a pattern as shown below:

```
B B B B B B B B
  B B B B B B B
    B B B B B
      B B B
        B
```

Task 5:

Write a C++ Program to print a pattern as shown below:

```
A
ABA
ABCBA
ABCD CBA
ABCDEDCBA
```

Task 6:

Write a C++ Program to print a pattern as shown below:

```
1          1
12         21
123        321
1234       4321
12345      54321
123456     654321
```

Task 7:

Write a C++ Program to print a pattern as shown below:

```
1  1
2 2
3
2 2
1  1
```

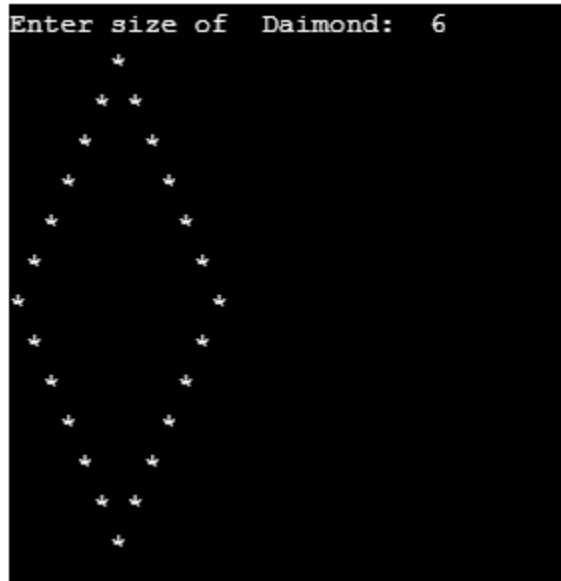
Task 8:

Write a C++ Program to print a pattern as shown below:

```
      1
    1 2 1
  1 2 3 2 1
1 2 3 4 3 2 1
1 2 3 4 5 4 3 2 1
1 2 3 4 5 6 5 4 3 2 1
1 2 3 4 5 6 7 6 5 4 3 2 1
1 2 3 4 5 6 7 8 7 6 5 4 3 2 1
1 2 3 4 5 6 7 8 9 8 7 6 5 4 3 2 1
```

Task 9:

Write a C++ Program to print a pattern as shown below:



Task 10:

Write a C++ Program to print a pattern as shown below:

```
* * * * * * * * * *
* * * *   * * * *
* * *     * * *
* *       * *
*         *
*         *
* *       * *
* * *     * * *
* * * *   * * * *
* * * * * * * * * *
```