

EXERCISE 04 - NESTED LOOPS

IMPORTANT: Before submission, make a copy of your 'Program.cs' file for each question and then rename each file to the following:

File Names:

- *last_name_first name_U3_E04_1.cs*
- *last_name_first name_U3_E04_2.cs*

Note: Along with last name and first name, make sure the end of the filename (i.e., before the .cs) has the **unit number**, **exercise number**, and **question number**. For example:

smith_john_U1_E03_2.cs

1. Output the following patterns using **nested for-loops** (submit only one file for this question):

```
0 1 2 3 4 5
0 1 2 3 4 5
0 1 2 3 4 5
```

```
0 1 2 3 4 5
1 2 3 4 5 6
2 3 4 5 6 7
```

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

```
 1
222
33333
4444444
555555555
```

```
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
*This pattern has a special name called
Floyd's Triangle.
```

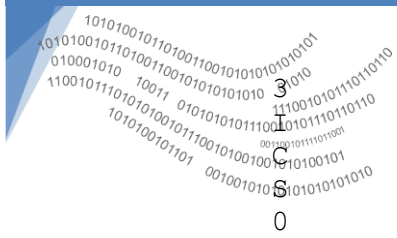
Bonus :

```
 1
212
32123
4321234
543212345
```

2. Consider the following input file:

Sample Input File (input.txt):

```
5
H
e
l
l
o
5
t
h
e
r
e
```



The first line of the input file is an integer 'n' representing how many characters are in a word. The next 'n' lines contain each character of that word. Then this process repeats until a '0' is encountered in which there are no more words.

Write a program that will read in this file and then output each word on a separate line:

Sample **Output**:

```
Hello
there
ICS
```

Note: Your program should be able to read any valid input file of any size.

Hint: Use an **outer while-loop** and an **inner for-loop** like the last example from the lesson.