NAME _____

**(1)** (**4 pts.**) Write out the exact output of the following code.

```
for ( int i = 1; i < 5; i++ )
{
    System.out.print( i + ":" );
    for ( int j = i; j >= 0; j-- )
    {
        System.out.print( " " + j );
    }
    System.out.println();
}
```

**(2)** (**6 pts.**) Write code that prints out the following:

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

For full points, your code should use **nested loops** (and each loop should be used to do some productive work), and the final output should look exactly like the above.

**(3) (5 pts.)** Suppose that we call the following method, with input parameter `num == 4`:

```
public void loop( int num )
{
    for ( int i = num; i >= 0; i-- )
    {
        System.out.print( i + " " );
    }
}
```

If we do so, we will get the following output (with an extra, invisible, space at the end):

4 3 2 1 0

Rewrite the method above so that instead of a single integer input, it takes ***three*** integers, `num1`, `num2`, and `num3`. It should then loop and print every value from `num1` down to `num2`, inclusive as before, repeating the process `num3` times in a row.

That is, if we call `loop(5, 3, 2)`, i.e. `num1 == 5`, `num2 == 3`, and `num3 == 2`, it would print:

5 4 3
5 4 3

If `num1 < num2`, or `num3 <= 0`, the method should print nothing.