

# Scanner and System Classes vs. JOptionPane Class Examples

There are a number of different ways to handle user input and output in Java. Two of these ways are:

* Through the command line (console)
* Through a graphical user interface (GUI)

In IT 106, the use of a simple GUI is required in solutions because modern IT solutions do not require a user to interact with a command line. Instead, these solutions allow the user to interact with a GUI. This course teaches the fundamental basics of this approach.

The purpose of this document is to provide a quick guide to seeing the differences between these two methods. It is helpful for those familiar with one and need to learn the other, in addition to translating examples that use one or the other. As you should see, the differences in code are very minimal, only related to syntax. The steps (algorithm) behind the code remains virtually identical.

You are encouraged to type out each of the examples to see how they run and compare the results.

| **Function** | **Command Line (Console)** | **Graphical User Interface (GUI)** |
| --- | --- | --- |
| **Output** | | |
| Single Line Output |  |  |
| Multiline Output |  |  |
| Variable Output |  |  |
| Output a Specific Number of Lines |  |  |
| **Input** | | |
| Input an integer (only one chance to get it right) |  |  |
| Input any integer (continue until one is entered) |  |  |
| Input an integer greater than 0 (continue until one is entered) |  |  |
| Input any number (continue until one is entered) |  |  |
| Input text values (continue until something is entered) |  |  |