# IO_Handling

**Feature Name**: Input and Output Process

**Feature Name in Annotation:** IO_Handling

**Source of Information**
Domain knowledge, Code comment, Source Code

**Strategy Used:**
We started from the largest and most central logic file MarlinMain.cpp, and browsing through the code comment and source code. We found that keywords such as "serials" are related to input and output process. However there are also other keywords that are related, and it requires the programmer to read the source code and being able to understand. Other files other than MarlinMain.cpp is also browsed afterwards to find the rest of the feature.

**Feature Description**: This feature is a mandatory feature and it is used for handling the information from serial input and output between the system and outsides. To support different type of boards and handle the I/O correctly, the pins for serial ports should be set first. This feature is used to handle the stream between system I/O and serial I/O such as: Gcode, Error, Free memory size, log, etc.

**Time spent:** This feature is one of 18 features that were located by manually going through all code files of Marlin using our source code method. It took one person 25 hours to identify all 18 features.

**Feature Characteristics:**

| Feature Name | LoFC | SD | TD | Completely Wrapped by ifdef |
|---|---|---|---|---|
| Input and Output Process | 87 | 12 | 0 | No |

**Ratios of sources (%)**

| RL | PR | CM | Ifdef | DK | CC | SC | GD |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 50 | 35 | 15 | 0 |

**RL**: Release Log; **PR:** Pull Request; **CM**: Commit, **Ifdef**: Ifdef Expression; **DK**: Domain Knowledge; **CC**: Code Comment; **SC**: Source Code; **GD**: G-Code Documentation.