Assignment 63: What is Formatted Input /Output Functions in C ?

Formatted Input/Output (I/O) functions in C are functions that handle input and output with specific formatting options. These functions allow you to specify how data should be formatted when reading from or writing to the console. The main formatted I/O functions in C are `printf()` for output and `scanf()` for input.

Advantages of using Formatted Input/Output Functions:

1. **Controlled Output Formatting**:
   - With formatted output functions like `printf()`, you can control the appearance of the output by specifying formatting options such as the width, precision, and alignment of data.
   - This allows you to present data in a well-organized and visually appealing manner, making it easier for users to interpret.

2. **Data Type Handling**:
   - Formatted output functions support different format specifiers for various data types such as integers, floats, characters, and strings.
   - This allows you to output data of different types without worrying about the underlying representation, as the functions handle type conversions and formatting automatically.

3. **Error Handling**:
   - Formatted input functions like `scanf()` provide error handling mechanisms to detect and handle input errors.
   - For example, `scanf()` returns the number of successfully matched input items, allowing you to check for input errors and take appropriate action.

4. **Ease of Use**:
   - Formatted I/O functions provide a convenient and concise way to format and process input/output data.
   - They use format specifiers to specify the type and format of data, which simplifies the code and makes it more readable and maintainable.

5. **Portability**:
   - Formatted I/O functions are standardized across different platforms and conform to the C language specification.

- This ensures that code written using formatted I/O functions can be easily ported to different systems without modification, enhancing code portability and interoperability.

Overall, formatted input/output functions in C provide flexibility, control, and ease of use for processing input and output data. They help in producing well-formatted output, handling different data types, detecting input errors, and writing portable code. Therefore, they are widely used in C programming for performing various input/output tasks.