**CPP Problem Design Example**

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| **Subject:** **Input\_Output3** |
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| **Main testing concept:** 基本輸入輸出   |  |  | | --- | --- | | **Basics** | **Functions** | | ■ C++ BASICS  □ FLOW OF CONTROL  □ FUNCTION BASICS  □ PARAMETERS AND OVERLOADING  □ ARRAYS  □ STRUCTURES AND CLASSES  □ CONSTRUCTORS AND OTHER TOOLS  □ OPERATOR OVERLOADING, FRIENDS,AND REFERENCES  □ STRINGS  □ POINTERS AND DYNAMIC ARRAYS | □ SEPARATE COMPILATION AND NAMESPACES  □ STREAMS AND FILE I/O  □ RECURSION  □ INHERITANCE  □ POLYMORPHISM AND VIRTUAL FUNCTIONS  □ TEMPLATES  □ LINKED DATA STRUCTURES  □ EXCEPTION HANDLING  □ STANDARD TEMPLATE LIBRARY  □ PATTERNS AND UML | |
| **Description:**  There is a given arbitrary number **X**(double), a positive integer **M**, a positive integer **N**, and a character **C**. Please output results with following steps:   1. Reformat the decimal part of **X** (excluding the decimal point) to **N** characters. The characters over **N** digits must be unconditionally discarded. If the decimal part of **X** is less than **N** digits, please make up with 0. 2. After step 1, if **X** (including negative and decimal points) is still less than **M** characters, please fill in with character **C** in front of the number. The amount of **C** and the number itself should meet exactly **M** characters.   **Input:**  Each line represents a group of **X**, **M**, **N**, and **C**. The four inputs are separated by spaces.   * **X**: The target number that need to be formed. * **M**: The total length of the output. (Including negative sign and decimal point.) * **N**: Number of reserved digits of the decimal part. * **C**: Letter to be filled when the length is not enough. (less than **M** digits)   The program continues to ask for input, and ends if EOF is read.  Please note that **C** may be a space.  **Output:**  Each line is outputted according to the requirements of the topic.  **Sample Input / Output：**   |  |  | | --- | --- | | Sample Input | Sample Output | | 3.14159265358979323846 5 2 G | G3.14 | | 3.14 8 3 X | XXX3.140 | | 3 8 0 C | CCCCCCC3 | | -3 8 5 C | -3.00000 | |
| **□ Eazy,Only basic programming syntax and structure are required.**  **■ Medium,Multiple programming grammars and structures are required.**  **□ Hard,Need to use multiple program structures or complex data types.** |
| **Expected solving time:**  30 minutes |
| **Other notes:** |