**CPP Problem Design Example**

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| **Subject: Greatest common divisor** |
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| **Main testing concept: Basic Number Operator**   |  |  | | --- | --- | | **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:**  Given two positive integers A,B, find the greatest common divisor of A and B.  **Input:**  Each input line has two positive numbers A and B (2 <= A,B <= 100000)separated by space with standard input.  The program should take multiple test input, finish when read EOF.  **Output:**  Output the greatest common divisor of A and B.  **Sample Input / Output：**   |  |  | | --- | --- | | Sample Input | Sample Output | | 24 36  15 6  81 54 | 12  3  27 | |
| **■ Easy,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:**  10 minutes |
| **Other notes:**  The program should take multiple test inputs, finish when read EOF. |