CPP Problem Design Example

Subject: Greatest Common Divisor

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Main testing concept: Basic Recursion

Basics	Functions
■ C++ BASICS	☐ SEPARATE COMPILATION AND NAMESPACES
■ FLOW OF CONTROL	☐ STREAMS AND FILE I/O
■ FUNCTION BASICS	■ RECURSION
☐ PARAMETERS AND OVERLOADING	☐ INHERITANCE
☐ ARRAYS	☐ POLYMORPHISM AND VIRTUAL FUNCTIONS
☐ STRUCTURES AND CLASSES	☐ TEMPLATES
☐ CONSTRUCTORS AND OTHER TOOLS	☐ LINKED DATA STRUCTURES
☐ OPERATOR OVERLOADING, FRIENDS,AND REFERENCES	☐ EXCEPTION HANDLING
☐ STRINGS	☐ STANDARD TEMPLATE LIBRARY
☐ POINTERS AND DYNAMIC ARRAYS	☐ PATTERNS AND UML

Description:

Please write a program, use the recursive function GCD(...) (abbreviation for Greatest Common Divisor) to output the greatest common divisor of two positive integers.

Input:

Input two positive integers a and b (a,b > 0 and a,b <= 2147483647).

Output:

output the greatest common divisor of two positive integers a and b.

Sample Input / Output：

Sample Input	Sample Output
33 11	11
2147483 997	1
125 475	25

■ 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:

5 minutes

Other notes:

Finish when read EOF.。