

CPP 程式設計題

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Main testing concept: templates

Basics

- ☐ 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

Functions

- ☐ 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:

Please write a template-based function that calculates and returns the absolute value of the difference between two numeric values passed in in the Template.h. Note that the function should operate with any numeric data type (e.g., float, int, double, char).

Please use the code snippets in the following to test your program:

```
#include "Template.h"
#include <iostream>
using namespace std;

int main()
{
    // Variable declarations
    int i1, i2;
    double d1, d2;
    i1 = 10; i2=20;
    cout << "Absolute value of 10,20 is " << absoluteValue(i1,i2) << endl;
    d1 = 5.5; d2=3.1;
    cout << "Absolute value of 5.5, 3.1 is " << absoluteValue(d1,d2) << endl;
    return 0;
}
```

輸入說明：

Replace main function

輸出說明：

Please reference the output.txt

IO 範例：

Sample Input	Sample Output
sample.in	sample.out

附屬資料：

☒ 解答程式：main.cpp, Template.h

☒ 測試資料：main1.txt, output1.txt

☒ 易，僅需用到基礎程式設計語法與結構

☐ 中，需用到多項程式設計語法與結構

☐ 難，需用到多項程式結構或較為複雜之資料型態或結構

解題時間：10 分鐘

其他註記：