C++ experiment 1

C++实验报告一

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MathJax 提供数学公式支持 | **ProcessOn.com** 提供流程图支持

Code:

main.cpp:

```cpp
//main.cpp
#include <iostream>
#include "complex.h"

/* run this program using the console pauser or add your own getch, system("pause") or i

int main(int argc, char** argv)
{
    complex complex1;
    complex complex2(-2.0,1.6);
    complex1.PrintComplex();
    complex2.PrintComplex();
    complex1.setComplex(2.0,-1.8);
    complex1.PrintComplex();
    complex2.PrintComplex();
    complex complex3;
    complex3.setComplex(6.6,8.8);
    float real=complex3.getReal();
    float imag=complex3.getImag();
    float abs=complex3.abs();

    std::cout<<"The complex is "<<real<<" + "<<imag<<"i"<<std::endl;
    std::cout<<"The complex 's real is "<<real<<" ,its imag is "<<imag<<std::endl;
    std::cout<<"The complex 's abs is "<<abs<<std::endl;

    system("pause");
    return 0;
}
```

complex.h:

```cpp
//complex.h
#ifndef COMPLEX_H
#define COMPLEX_H

class complex
{
    private:
        float real;
        float imag;
    public:
        //construtor does not have return type
        complex();
        complex(float,float);
        void setComplex(float,float);
        float getReal();
        float getImag();
        float abs();
        void PrintComplex();
};//do not forget!


#endif
```

complex.cpp

```cpp
//complex.cpp
#include "complex.h"
#include <iostream>
#include <cmath>

float complex::abs()
{
    return sqrt(real*real+imag*imag);
}

complex::complex()
{
    real=0.0;
    imag=0.0;
}

complex::complex(float r,float i)
{
    real=r;
```

```cpp
        imag=i;
}


void complex::PrintComplex()
{
    std::cout<<"The complex is "<<real<<" + "<<imag<<"i"<<std::endl;
    std::cout<<"The complex 's real is "<<real<<" ,its imag is "<<imag<<std::endl;
}


void complex::setComplex(float r,float i)
{
    real=r;
    imag=i;
}


float complex::getImag()
{
    return imag;
}


float complex::getReal()
{
    return real;
}
```
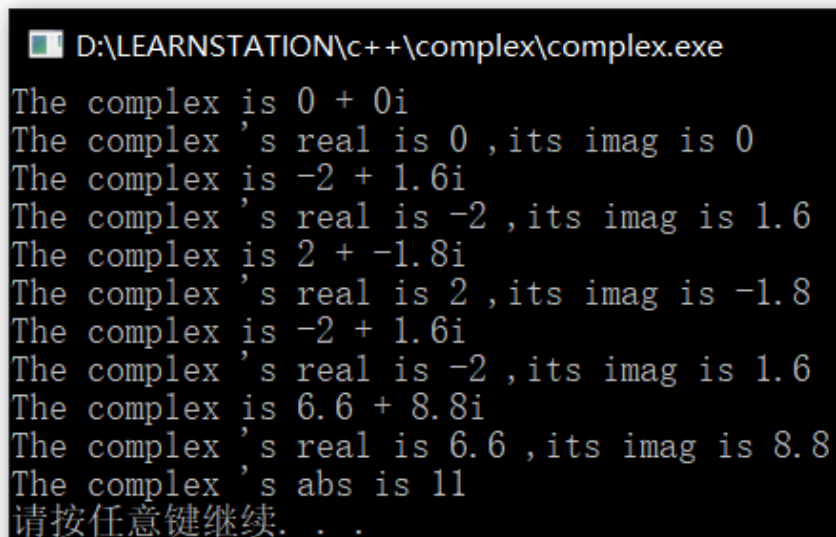
Demo: