

```
1 //=====
2 // Name      : H34086149_hw9_1.cpp
3 // Author    : mr. NTD
4 // Version   :
5 // Copyright : Your copyright notice
6 // Description: Hello World in C++, Ansi-style
7 //=====
8
9 #include <iostream>
10 using namespace std;
11 double power(double base, unsigned int exponent)
12 {
13     if(exponent == 1)
14         return base;
15     return base * power(base, exponent - 1);
16 }
17 int main()
18 {
19     double base;
20     int exponent;
21     cout << "Please input the base and the exponent\n";
22     cin >> base >> exponent;
23     cout << power(base, exponent) << '\n';
24     return 0;
25 }
26
27
```

Problems Tasks Properties Console

<terminated> (exit value: 0) H34086149\_hw9\_1.exe [C/C++ Application] C:\Users\user\eclipse-workspace\H34086149\_hw9\_1\Debug\H34086149\_hw9\_1.exe (2019/11/19 下午10:29)

Please input the base and the exponent

2 10

1024

```
1 //=====
2 // Name      : H34086149_hw9_2.cpp
3 // Author    : mr.NTD
4 // Version   :
5 // Copyright : Your copyright notice
6 // Description: Hello World in C++, Ansi-style
7 //=====
8
9 #include <iostream>
10 #include <cmath>
11 #include <climits>
12 using namespace std;
13
14 //long long f(long long int n)
15 {
16     if(n <= 1)
17         return n;
18     return f(n-1) + f(n-2);
19 }*/
20
21 void f_int()
22 {
23     long long int pre1 = 0;
24     long long int pre2 = 1;
25     long long int now;
26     cout << "第 0 項為 0\n";
27     cout << "第 1 項為 1\n";
28     for(int i = 2; i++)
29     {
30         now = pre1 + pre2;
31         if(now > INT_MAX)
32             break;
33     }
```

<terminated> (exit value: 0) H34086149\_hw9\_2.exe [C/C++ Application] C:\Users\user\eclipse-workspace\H34086149\_hw9\_2\Debug\H34086149\_hw9\_2.exe (2019/11/19 下午10:30)

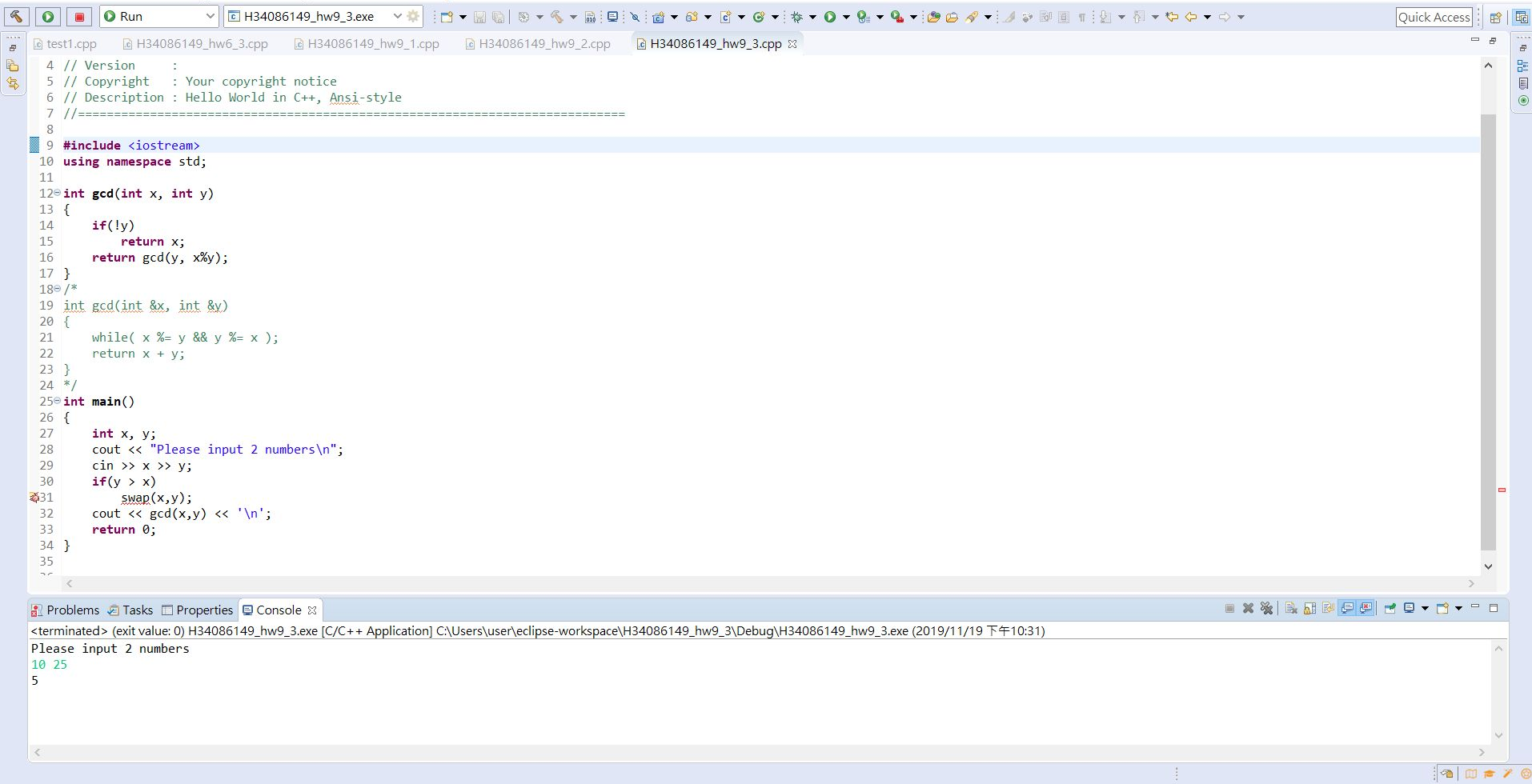
```
第 41 項為 165580141
第 42 項為 267914296
第 43 項為 433494437
第 44 項為 701408733
第 45 項為 1134903170
第 46 項為 1836311903
```

The screenshot shows the Eclipse IDE interface. The main editor displays the source code for `H34086149_hw9_2.cpp`. The code includes a `f_double` function and a `main` function. The `main` function calls `f_int` and `f_double`. The console output shows the results of the program execution, displaying the sequence of terms and their values.

```
33     cout << "第 " << i << " 項為 " << now << '\n';
34     pre1 = pre2;
35     pre2 = now;
36 }
37 }
38
39 void f_double()
40 {
41     double pre1 = 0;
42     double pre2 = 1;
43     double now;
44     cout << "第 0 項為 0\n";
45     cout << "第 1 項為 1\n";
46     for(int i = 2;; i++)
47     {
48         now = pre1 + pre2;
49         if(isinf(now))
50             break;
51         cout << "第 " << i << " 項為 " << now << '\n';
52         pre1 = pre2;
53         pre2 = now;
54     }
55 }
56
57 int main()
58 {
59     f_int();
60     f_double();
61     return 0;
62 }
63
64
```

Console Output:

```
<terminated> (exit value: 0) H34086149_hw9_2.exe [C/C++ Application] C:\Users\user\eclipse-workspace\H34086149_hw9_2\Debug\H34086149_hw9_2.exe (2019/11/19 下午10:30)
第 1471 項為 1.17631e+307
第 1472 項為 1.90687e+307
第 1473 項為 3.08538e+307
第 1474 項為 4.99225e+307
第 1475 項為 8.07764e+307
第 1476 項為 1.30699e+308
```



The screenshot shows the Eclipse IDE interface. The top toolbar contains various icons for file operations, editing, and running. The main editor window displays the file `H34086149_hw9_3.cpp` with the following code:

```
4 // Version :
5 // Copyright : Your copyright notice
6 // Description : Hello World in C++, Ansi-style
7 //=====
8
9 #include <iostream>
10 using namespace std;
11
12 int gcd(int x, int y)
13 {
14     if(!y)
15         return x;
16     return gcd(y, x%y);
17 }
18 /*
19 int gcd(int &x, int &y)
20 {
21     while( x %= y && y %= x );
22     return x + y;
23 }
24 */
25 int main()
26 {
27     int x, y;
28     cout << "Please input 2 numbers\n";
29     cin >> x >> y;
30     if(y > x)
31         swap(x,y);
32     cout << gcd(x,y) << '\n';
33     return 0;
34 }
35
36
```

Below the editor, the **Console** window is active, showing the output of the program:

```
<terminated> (exit value: 0) H34086149_hw9_3.exe [C/C++ Application] C:\Users\user\eclipse-workspace\H34086149_hw9_3\Debug\H34086149_hw9_3.exe (2019/11/19 下午10:31)
Please input 2 numbers
10 25
5
```