

1. What does C++ print?

Write out what the code snippets would output. If an error occurs, describe the error. The first has been done for you.

Assume that we have included the `<iostream>`, `<cmath>`, `<string>` libraries, and that we are using the standard namespace.

<code>int x = 42; cout << x + 1;</code>	43
<code>int i = 24; int j = 2; i *= j; cout << i << " " << j;</code>	48 2
<code>int myage = 42; int myage += 1; cout << "birthday: " << myage;</code>	Error: Can't declare myage twice!
<code>int a = 13 % 12; cout << a << " " << a % 1;</code>	1 0

2. cin city

For each of the code and user-input, write the output. If cin enters a failure state, or the program hangs/pauses, please explain why. The first has been done for you.

Code	User Input
<code>int x; cin >> x; cout << "x is: " << x;</code>	42<ENTER>

Output:

x is: 42

2.a

Code	User Input
<code>int x, y; cin >> y >> x; cout << x << " " << y;</code>	2 4<ENTER>

Output:

4 2

2.b

Code	User Input
<pre>int x = 0, y = 1; cin >> x >> y; cout << x << " " << y;</pre>	24<ENTER>

Output:

The program pauses, waiting for the user to type values for y. Sets x to 24.

2.c

Code	User Input
<pre>int x = 0, y = 1; cin >> x >> y; cout << x << " " << y;</pre>	<ENTER>

Output:

The program pauses, waiting for the user to type values for x.

2.d

Code	User Input
<pre>int a = 1; double b = 0.1; cin >> b >> b >> a; cout << a << " " << b;</pre>	.1.23 4<ENTER>

Output:

4 0.23

2.e

Code	User Input
<pre>double d1 = 0; string s1; cin >> d1 >> s1; cout << d1 << " " << s1;</pre>	0.12meow<ENTER>

Output:

0.12 meow

2.f

Code	User Input
<pre>double d1 = 3; string s1; cin >> s1 >> d1; cout << d1 << " " << s1;</pre>	0.12meow0.50<ENTER>

Output:

The program waits for the user to enter more input for d1. s1 is set to: 0.12meow0.50.

2.g

Code	User Input
<pre>string s1; int i1 = 1; double d1; cin >> s1 >> s1 >> i1; cin.clear(); cin >> d1 >> s1; cout << s1 << " " << i1 << " " << d1;</pre>	this is .50 cent<ENTER>

Output:

cent 1 0.5

3. Code Review

Louis Reasoner is at it again, getting better every night at programming. Can you spot any mistakes in his latest program?

```
using namespace std;
int main (
    string myname;
    cout << "Please enter your name: ";
    cin << myname;
    cout << "How old are you?" << \n;
    cin >> myage;
    cout >> "In 10 years, myname will be myage+10 years old!" << endl;
    string myname = "Louis";
    cout >> "Programmed by: " << myname;
    return 0;
)
```

```

#include <iostream>
#include <string>
using namespace std;
int main() {
    string myname;
    cout << "Please enter your name: ";
    cin >> myname;
    cout << "How old are you?" << "\n";
    int myage;
    cin >> myage;
    cout << "In 10 years, " << myname << " will be " << myage+10
        << " years old!" << endl;
    string myname = "Louis";
    cout << "Programmed by: " << myname;
    return 0;
}

```

4. Reverse Engineer Causes Mayhem At Local Factory

Determine which inputs to cin (if any) will produce the desired output. Multiple answers may be correct.

4.a

Code	Desired Output
<pre> string a; int b; int c; cin >> a >> b >> c; cout << b << " " << c; </pre>	42 2

cin Input:

```

(A) hi 422<ENTER>
(B) hi42 2<ENTER>
(C) hi 42 2<ENTER>
(D) hi422<ENTER>

```

4.b

<pre>string s1; double d1; cin >> s1 >> s1 >> d1 >> d1; cout << s1 << " " << d1;</pre>	alpha 0.5
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cin Input:

<p>(A) alpha 0.5<ENTER> (B) alpha alpha 0.5 0.5<ENTER> (C) alpha0.5 alpha 0.5 0.5<ENTER> (D) alpha 0.5 alpha 0.5<ENTER></p>

4.c

<pre>double d1 = 1.1; int i1 = 2; string s1; cin >> d1 >> i1 >> i1; cin >> s1; cin.clear(); cin >> d1; cin >> s1; cout << d1 << " " << s1 << " " << i1;</pre>	0.3 .4.5 2
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cin Input:

<p>(A) 0.12.3.4.5<ENTER> (B) 0.3 2 2 a 0.3 .4.5<ENTER> (C) .3.3 .4.5<ENTER> (D) 12.3.3 .4.5<ENTER></p>
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