

Have a look at the example C++ code posted on the class web site. List all bugs you can find in the program and explain why it is a bug. List any fixes for the bugs you find.

```
cout << endl is missing a ;.  
cin >> numbr2; the variable numbr2 is mistyped.  
product = number1 / number2; divides, not multiplies.  
cout << number1 << " * " << number2 << " = " product << endl; is missing << before product.
```

Now modify the code with the fixes you listed above. What compiler errors did you get? If the program compiled & ran with no errors, did you get the results you expected?

(answers will vary)

If applicable, list any bugs you found after compiling in the step above. What fixes did you employ to fix those bugs? Did the fixes alleviate the problem?

(answers will vary)

Read the CS 54 Style Guide. Make sure you understand all of it before continuing.

Justin just wrote his first program for CS 54. The code is as follows:

```
#include <iostream>
using namespace std;

int main() {cout<<"Hello, world!"<<endl;
  return 0; }
```

How many things can you find wrong with Justin's style? What section(s) in the CS 54 Style Guide should he reference to learn more about the rule(s) he violated? (2 points)

- Need to start a new line and indent after `int main()` (3.2).
- Need to put the closing brace on its own line (3.2).
- Need spaces between the `<<` operators (3.3).
- Missing file comments (4.2).

Charlotte is writing an accounting program and is writing code to retrieve the value of two transactions, average them, and sum them. Here is her code (assume that `trans1` and `trans2` already have the transaction values from somewhere else):

```
double trans1,trans2;
double a,m,s;
m=trans1*trans2;a=m/2;
s=trans1+trans2;
```

What is wrong with Charlotte's coding style? What section(s) in the CS 54 Style Guide should she reference to learn more about the rule(s) she violated? (2 points)

- Variable naming convention makes no sense (2.1).
- The `a=m/2;` line should be on its own line of code (3.2).
- Need spaces between the mathematical operators (3.3).
- Missing in-function comments (4.4).