Problem (1) [10 points] What is the output of this code:

```cpp
int x = 3;
double y = x/2;
y*=2;
x%=x;

cout << x << y << endl;

int a = 10;
int b = 3;
int c = a + ++b;
cout << c++ % a << endl;
cout << a << " " << b << c << endl;
```
Problem (2) [10 points] The triangle inequality states that if three edges can form a triangle, the sum of any two edges must be greater than or equal to the third. Write a code as if it were inside main() (you do not need to do #includes and such) that reads three edge lengths and determines whether or not they could make a triangle. Assume edge lengths will be whole numbers.
Problem (3) [10 points] Write code that will read in someone’s first and last name and output their initials. So if the user entered “rizwan ventseslav” you would display (without quotes): “r.v.”
Problem (4) [10 points] Find 3 errors in the code below. Assume that the code is completely shown except for #includes and “using namespace std”. For each error, identify whether it is a runtime error, syntax error or logic error. You must also precisely describe why you think the part of code you identify is an error.

```cpp
int main()
{
    int x, y;
    cin << x;
    int sum;
    if(x==y)
        sum = x;
        sum = sum*2;
    else if(x!=y)
        sum = x+y;
    cout << "Sum is " << sum << endl;

    return 0;
}
```