

# Computer Programming (II)

## Homework 3

### Problem Statement

A Martian who is told to attack will

- bravely attack if there are three or more Martians in the universe, and
- run away otherwise.

To simulate the above behavior, please add a Martian class to the program below.

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

int main()
{
    Martian a;

    ( new Martian )->attack(); // Running for my life!
    cout << Martian::getCount() << ' '; // 2

    {
        Martian b;

        cout << a.timesBravelyAttacked() << ' '; // 0
        a.attack(); // Bravely attacking!
        cout << a.timesBravelyAttacked() << ' '; // 1
        a.attack().attack(); // Bravely attacking! Bravely attacking!
        cout << a.timesBravelyAttacked() << ' '; // 3
        cout << Martian::getCount() << ' '; // 3
    }

    a.attack(); // Running for my life!
    cout << a.timesBravelyAttacked() << ' '; // 3
    cout << Martian::getCount() << ' '; // 2

    Martian c;
```

```
a.attack(); // Bravely attacking!  
cout << a.timesBravelyAttacked() << ' '; // 4  
cout << Martian::getCount() << ' '; // 3  
cout << c.timesBravelyAttacked() << endl; // 0  
}
```

Requirements:

- Please leave the main function intact.
- Each line of the above program should output its comment (if any).
- Your Martian class should have only two data members, exactly one of which is static.
- Please do not declare global variables (except possibly by including `<iostream>`).

Note that the program causes a memory leak.