

## CSCI 293 - C# Final Exam Review Questions

1. C#.net uses a "Just-In-Time compiler". What is that?
2. In C#.net, "garbage collection" is automatic. What does that mean and how might that affect my code?
3. To create an array of 10 integers in C++, all I have to do is:

```
int myarray[10];
```

but in C# I have to type all this stuff

```
int myarray[] = new int[10];
```

Why?
4. The syntax of C++ and C# are very similar, but when I take this C++ code

```
int count = 10;
while (count-->0)
    cout << count;
```

and convert it to C# by changing the output statement, I get a compiler error. Where and why?
5. Why is it that arrays in C# have nifty built-in methods like quicksort, but C++ arrays don't?
6. What is the difference in a property, a method, and a field?
7. Describe a situation where a property is more appropriate than a field or method.
8. What is the difference in public, protected, and private?
9. What are class fields and class methods? (class field = static field)
10. Give an example of a good use of a class/static field.
11. If fields can be initialized, why use a constructor?
12. When a new class extends an existing class, what gets inherited from the existing class?
13. When a new class extends an existing class, what does not get inherited from the existing class?
14. What is the difference in "overriding" and "overloading"?
15. What is the purpose of the reserved word "this"?
16. When creating a windows application with multiple forms, why might I be sending "this" to the constructor of another form?

```
Form2 temp = new Form2 (this);
```
17. Given that mytable is attached to a database, what does this code do?

```
foreach (DataRow dataRow in mytable.Rows)
{
    comboBox1.Items.Add ( dataRow["name" ] );
}
```
18. The following source code is my attempt to create a program that will sum all the integers in a file. Each line of the file contains a single integer, but some lines contain text. The text lines should be ignored. Is the code correct? If not, fix it.

```
while ((inputline = infile.ReadLine()) != null)
{
    try
    {
        intvalue = Convert.ToInt32(inputline);
    }
    catch { }
    sum += intvalue;
}
```