

Instructions: Quiz #1, on 01/27, will consist of questions taken or inspired from this homework, and from the following labs:

- Introduction,
- Hello World!,
- Creating your first program
- Variables and
- Casting

1 Short Questions

1. List five pieces of software and three hardware components of a computer.
2. List four programming languages.
3. What is a GUI?
4. What is a CLI?
5. What, if any, is the difference between a compiler and an assembler?
6. Is machine code (or the machine language program) made of circuits, binary numbers, classes, or compilers?
7. Give a specific characteristic of C# compared to other programming languages.
8. What happens when the source code you are giving to the compiler has a syntax error?
9. Is the C# compiler case-sensitive?
10. Suppose I replace every white space in your source code with two white spaces. Will your program still compile? Why, or why not?
11. Give three keywords.
12. Give three programming languages.
13. Write a statement that would display, "Hi Mom!" (without the quotes) followed by a new line on the screen, once inserted in a proper method, compiled, and executed.
14. What is the limitation, if any, to the number of methods you can have per class? Why is the method called `Main` special?
15. What is the difference between a "rule" and a "convention" in programming language?
16. What is a namespace?
17. In a C# program, can comments start with `\\` (double backslash) or with `//` (double (forward) slash)? Do they have to end with a `;` (semicolon)?
18. Which of the following, if any, are keywords?

```
Welcome1
public
apples
int
"I'm a string"
```

19. Which of the following are programmer-defined names (or identifiers)?

```
BankAccount
class
apples
int
itemPerCapita
statement
```

20. Why are variables called “variables”?
21. What is string interpolation?
22. What is the difference, if any, between 3 and "3"?
23. What is the difference, if any, between the `WriteLine` and `Write` methods?
24. Write a statement that would display the following on the screen:

```
Hi Mom! ←
How are you doing?
```

25. Assume we have a variable whose name is `myVariable`, type is `string`, and value is "My message". What would be displayed on the screen by the following statement?

```
Console.WriteLine($"Here is my variable: {myVariable}");
```

26. Which of the following are correct identifier names?

```
$myHome3
class
my%variable
ANewHope
_train
_ThisIsAVariable
statement
```

27. Is the name `myVariable` the same as `myvariable`? If not, why?
28. Circle the correct identifier names:

```
myClass
_Exo_1
Lab3-Exo1
My.Lab.Variable
using
Lab3_Part1
```

29. Circle the keywords:

```
myClass
static
Lab3-Exo1
"Hello World"
using
Lab3_Part1
```

30. Which one(s) of the following, if any, is a correct assignment (assuming that `variable`, `x` and `apples` have been declared as `int` variables)?

```
5 => variable;  
x=5;  
apples= 23  
x <= 23;  
variable =1,890;
```

31. Write a statement that assigns the value 23 to a variable `myAge` of type `int`. You do not need to re-declare that variable.
32. Cross out the wrong answer in the following sentences, [~~like this (incorrect)~~ | like this (correct)]:

If the code does not obey the [rules | conventions] of C#, then the compiler will complain.

Every statement needs to end with [a forward slash / | a semi-colon ;].

C# is a [object-oriented | functional] programming language.

A class is made up of [a body and a header | multiple **using** statements].

An identifier can contain [only lower-case letters | letters and digits].

Comments are meant to be read by [compilers | humans].

Every statement needs to end with [a semi-colon ; | a backward slash \].

C# is an [object-oriented programming | assembly] language.

A method is made up of [a body and a header | multiple **using** statements].

An identifier can contain [anything but spaces | only letters and digits].

2 Problems

1. There are 4 errors in the following code that will prevent it from compiling. Can you spot them all?

```
// My first attempt.  
using System  
  
class Wel  
{  
    static void Main();  
{  
    Console.WriteLine("Welcome \n to the lab!");  
}
```