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| **APCS Exposure Java** | **Exercises 13.05-10** | **Date:** |
| **Name:** | | **Period:** |

1. What are the 2 possible values of the **boolean** data type?

2. Rewrite this program segment as a signle program statement:

**if (gpa >= 90)**

**honorStudent = true;**

**else**

**honorStudent = true;**

3. What is *nesting*?

4. What new Java statements are required for nesting?

5. What should you do when a computer science program becomes too complex?

6. The **switch** structure was not used in program ***Java1305.java*** because of what 2 limitations?

7. Look at the nested **if...else** example in program ***Java1305.java***.

There is a statement, which states: **if (score >= 80.0) grade = 'B';**

Now if the user enters **98**, that would be greater than **80**, which satisfies the requirements of a **'B'**.

What makes the program conclude **98** is an **'A'** (as it should) ?

8. Looking at program ***Java1305.java*** again, if the user enters **69.99999**, what will the output be?

9. Besides *selection*, what other control structures can be nested?

10. Which loop structure is probably the easiest for nesting?

11. What symbol does Java use for a logical "or" ?

12. What symbol does Java use for a logical "and" ?

13. What symbol does Java use for a logical "not" ?

14. What symbol does Java use for a logical "xor" ?

15. The **nextLine** method of the **Scanner** class will enter a **String** value.

What do you do if you just want to enter a single **char** value?

16. Explain the logic error in program ***Java1310.java***.

17. Why does the **boolean** data type exist?

18. Is a *compound condition* limited to 2 conditions?

19. Why is a **do...while** loop structure frequently used for input protection?

20. What is a *short circuit* as it pertains to electrical current?

21. Explain the computer science concept of *Short Circuiting*.

**In questions 22 through 25, the answer is either** true**,** false**, or** unknown**.**

22. If A is true, what is the value of A or ((B and C) or (A or C) and (A and B)) ?

23. If A is false, what is the value of A and ((B and C) or (A or C) and (A and B)) ?

24. If A is false, what is the value of A or ((B and C) or (A or C) and (A and B))?

25. If A is true, what is the value of A and ((B and C) or (A or C) and (A and B)) ?