

AP[®] COMPUTER SCIENCE A
GENERAL SCORING GUIDELINES

Apply the question assessment rubric first, which always takes precedence. Penalty points can only be deducted in a part of the question that has earned credit via the question rubric. No part of a question (a, b, c) may have a negative point total. A given penalty can be assessed only once for a question, even if it occurs multiple times, or in multiple parts of that question. A maximum of 3 penalty points may be assessed per question.

1-Point Penalty

- (w) Extraneous code that causes side effect (e.g., printing to output, incorrect precondition check)
- (x) Local variables used but none declared
- (y) Destruction of persistent data (e.g., changing value referenced by parameter)

Mr Lee's 1-Point Penalty:

- Inefficient, “long winded” or “messy” difficult to understand code which takes longer to write than standard more efficient solutions.
 - In an exam you need to save time by writing quickly hand writable efficient code which is easy for AP readers to understand.

No Penalty

- Extraneous code with no side effect (e.g., precondition check, no-op)
- Spelling/case discrepancies where there is no ambiguity*
- Local variable not declared provided other variables are declared in some part
- Keyword used as an identifier
- Common mathematical symbols used for operators (\times • \div \leq \geq $<$ $>$ \neq)
- = instead of == and vice versa
- Missing { } where indentation clearly conveys intent
- Missing () around *if* conditions

** Spelling and case discrepancies for identifiers fall under the "No Penalty" category only if the correction can be unambiguously inferred from context; for example, "total" instead of "totl". As a counterexample, that if the code declares "int G=99, g=0; ", then uses "while (G < 10) " instead of "while (g < 10) ", the context does not allow for the reader to assume the use of the lower-case variable.*

Various items are available for purchase. Items are either taxable or nontaxable. The purchase price of a taxable item is computed from its list price and its tax rate. The purchase price of a nontaxable item is simply its list price.

(a) Write a code segment that will calculate and print the list price of a vehicle. A vehicle has two parts to its list price: a dealer cost and dealer markup. The list price of a vehicle is the sum of the dealer cost and the dealer markup.

For example, if a vehicle has a dealer cost of \$20,000.00, a dealer markup of \$2,500.00, then the list price of the vehicle would be \$22,500.00. If the dealer markup were changed to \$1,000.00, then the list price of the vehicle would be \$21,000.00.

```
// Calculates and prints the list price of the item.
```

(b) Write a code segment that will calculate the purchase price of a taxable item, which is its list price plus the tax on the item. The tax is computed by multiplying the list price by the tax rate. For example, if the tax rate is 0.10 (representing 10%), the purchase price of an item with a list price of \$6.50 would be \$7.15.

Complete the code segment below.

```
/* Calculates and prints the purchase price of the item  
 * including the tax.  
 */  
double taxRate = 0.10;
```