Answers and Solutions

Exam #3 ~ Multiple Choice

1. A	11. B	21. C	31. E
2. E	12. C	22. D	32. B
3. E	13. A	23. A	33. A
4. E	14. E	24. D	34. C
5. C	15. A	25. E	35. D
6. D	16. B	26. A	36. D
7. C	17. B	27. A	37. A
8. E	18. B	28. D	38. B
9. C	19. B	29. B	39. A
10. A	20. C	30. D	40. D

Notes:

1. In Option II, `(double)(q / 2)` evaluates to 1.0; in Option III, `(double)(p * q / 2)` evaluates to 7.0.
2. `band.substring(1, 4)` is `"nam"`; `band.substring(5, 8)` is `"nag"`.
3. `4/3` yields 1.
4. A "for each" loop cannot change the values in an `ArrayList` of strings because `String` objects are immutable.
5. `filter` makes a new string from `str` with all the occurrences of `pattern` in `str` removed one by one.
6. `\\` represents one backslash, and `\n` represents the newline character. So `str` actually consists of 5 characters: `\`, `*`, *<newline character>*, `*`, `\`.
7. The last element remains unchanged, which eliminates Choices A and B.
8. `countSomething` returns the number of times the maximum value occurs in the array. If a new maximum is found, the count is reset to 1.
9. Suppose `somethingIsFalse` returns `true`. Then the `else` clause is executed in the code segment and it returns `true`, and so does the statement in Choice C.
10. It is easier to negate each of the expressions (using De Morgan's Laws when necessary) and check whether the result is equivalent to "all three values are the same." In Choice A, `!(a != b || b != c)` is the same as `(a == b && b == c)`, which is `true` if and only if `a == b` and `b == c` and `a == c`.