

SOLUTIONS MANUAL



Java Programming

Fourth Edition

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Review Questions

1. When data cannot be changed after a class is compiled, the data is _____.
 - a. constant
 - b. variable
 - c. volatile
 - d. mutable
2. Which of the following is not a primitive data type in Java?
 - a. boolean
 - b. byte
 - c. int
 - d. sector
3. Which of the following elements is not required in a variable declaration?
 - a. a type
 - b. an identifier
 - c. an assigned value
 - d. a semicolon
4. The assignment operator in Java is _____.
 - a. =
 - b. ==
 - c. :=
 - d. ::
5. Assuming you have declared `shoeSize` to be a variable of type `int`, which of the following is a valid assignment statement in Java?

- a. `shoeSize = 9;`
- b. `shoeSize = 9.5;`
- c. `shoeSize = '9';`
- d. `shoeSize = "nine";`

For 9.5 to be assigned, the variable would have to be a double or float. '9' could be stored in a char variable. "nine" would be stored in a String.

6. Which of the following data types can store a value in the least amount of memory?
- a. short
 - b. long
 - c. int
 - d. byte
7. The modulus operator _____.
- a. is represented by a forward slash
 - b. provides the remainder of integer division
 - c. provides the quotient of integer division
 - d. Answers b and c are correct.
8. According to the rules of operator precedence, when division occurs in the same arithmetic statement as _____, the division operation always takes place first.
- a. multiplication
 - b. modulus
 - c. subtraction
 - d. Answers a and b are correct.
9. A Boolean variable can hold _____.

- a. any character
- b. any whole number
- c. any decimal number
- d. the values true or false

10. The “equal to” comparison operator is _____.

- a. =
- b. ==
- c. !=
- d. !!

The single equal sign is used for assignment in Java, not comparison.

11. The value 137.68 can be held by a variable of type _____.

- a. int
- b. float
- c. double
- d. Two of the preceding answers are correct.

The two correct answers are b and c. An int can hold only a whole number.

12. When you perform arithmetic with values of diverse types, Java _____.

- a. issues an error message
- b. implicitly converts the values to a unifying type
- c. requires you to explicitly convert the values to a unifying type
- d. requires you to perform a cast

13. If you attempt to add a float, an int, and a byte, the result will be a(n)

_____.

- a. float

- b. `int`
 - c. `byte`
 - d. error message
14. You use a _____ to explicitly override an implicit type.
- a. mistake
 - b. type cast
 - c. format
 - d. type set

15. In Java, what is the value of $3 + 7 * 4 + 2$?

- a. 21
- b. 33
- c. 42
- d. 48

Because multiplication is performed before addition, $7 * 4$ is calculated first, resulting in 28. Then 3 is added giving 31. Finally 2 is added, giving 33.

16. Which assignment is correct in Java?

- a. `int value = (float) 4.5;`
- b. `float value = 4 (double);`
- c. `double value = 2.12;`
- d. `char value = 5c;`

17. Which assignment is correct in Java?

- a. `double money = 12;`
- b. `double money = 12.0;`
- c. `double money = 12.0d;`

d. all of the above

In a, the integer 12 is promoted to a double for assignment. The value 12.0 is a double by default. In c, the d is not necessary, but can be used; if the variable was a float, you would use 12.0f.

18. Which assignment is correct in Java?

a. `char aChar = 5;`

b. `char aChar = "W";`

c. `char aChar = '*' ;`

d. Two of the preceding answers are correct.

Neither the int in a nor the String in b can be assigned to the char variable.

19. An escape sequence always begins with a(n) _____.

a. e

b. forward slash

c. backslash

d. equal sign

20. Which Java statement produces the following output?

```
w  
xyz
```

a. `System.out.println("wxyz");`

b. `System.out.println("w" + "xyz");`

c. `System.out.println("w\nxyz");`

d. `System.out.println("w\nx\ny\nz");`

In a and b, the four letters are all output in one line. In d, each of the four letters occupies its own line.