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Chapter 2

MULTIPLE CHOICE

1. Which one of the following would contain the translated Java byte code for a program named `Demo`?
   a. `Demo.java`
   b. `Demo.code`
   c. `Demo.class`
   d. `Demo.byte`

   ANS: C

2. To compile a program named `First`, use the following command:
   a. `java First.java`
   b. `javac First`
   c. `javac First.java`
   d. `compile First.javac`

   ANS: C

3. A Java program must have at least one of these:
   a. Class definition
   b. Variable
   c. Comment
   d. `System.out.println();` statement

   ANS: A

4. In Java, the beginning of a comment is marked with:
   a. `//`
   b. `""`
   c. `;`
   d. #

   ANS: A

5. The term _____ typically refers to the device that displays console output.
   a. Standard output device
   b. Central processing unit
   c. Secondary storage device
   d. Liquid crystal display

   ANS: A

6. In Java, _____ must be declared before they can be used.
   a. Variables
   b. Literals
   c. Key words
   d. Comments

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ANS: A

7. If the following Java statements are executed, what will be displayed?

```
System.out.println("The top three winners are\n");
System.out.print("Jody, the Giant\n");
System.out.print("Buffy, the Barbarian");
System.out.println("Adelle, the Alligator");
```

a. The top three winners are
   Jody, the Giant
   Buffy, the Barbarian
   Adelle, the Alligator
b. The top three winners are
   Jody, the Giant\nBuffy, the BarbarianAdelle, the Alligator
c. The top three winners are Jody, the Giant\nBuffy, the BarbarianAdelle, and the Albino
d. The top three winners are
   Jody, the Giant
   Buffy, the BarbarianAdelle, the Alligator

ANS: D

8. This is a value that is written into the code of a program.
   a. literal
   b. assignment statement
   c. variable
   d. operator

ANS: A

9. When the + operator is used with strings, it is known as the:
   a. Assignment operator
   b. String concatenation operator
   c. Addition operator
   d. Combined assignment operator

ANS: B

10. What would be printed out as a result of the following code?

```
System.out.println("The quick brown fox" +
                   "jumped over the \n"
                   "slow moving hen.");
```

a. The quick brown fox jumped over the \nslow moving hen.
b. The quick brown fox jumped over the
   slow moving hen.
c. The quick brown fox
   jumped over the
   slow moving hen.
d. Nothing. This is an error.

ANS: D

11. Which of the following is not a rule that must be followed when naming identifiers?

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a. The first character must be one of the letters a-z, A-Z, and underscore or a dollar sign.
b. Identifiers can contain spaces.
c. Uppercase and lowercase characters are distinct.
d. After the first character, you may use the letters a-z, A-Z, the underscore, a dollar sign, or digits 0-9.

ANS: B

12. Which of the following cannot be used as identifiers in Java?
a. Variable names
b. Class names
c. Key words
d. All of the above
e. None of the above

ANS: C

13. In Java, it is standard practice to capitalize the first letter of:
a. Class names
b. Variable names
c. Key words
d. Literals

ANS: A

14. Which of the following is not a primitive data type?
a. `short`
b. `long`
c. `float`
d. `String`

ANS: D

15. Which of the following is valid?
a.
```
float y;
y = 54.9;
```

b.
```
float y;
double z;
z = 934.21;
y = z;
```

c.
```
float w;
w = 1.0f;
```

d.
```
float v;
v = 1.0;
```

ANS: C

16. The `boolean` data type may contain values in the following range of values
a. `true` or `false`

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b. -128 to + 127
c. - 2,147,483,648 to +2,147,483,647
d. - 32,768 to +32,767

ANS: A

17. Character literals are enclosed in _____; string literals are enclosed in _____.
a. single quotes; single quotes
b. double quotes; double quotes
c. single quotes; double quotes
d. double quotes; single quotes

ANS: C

18. What is the result of the following expression?

```
10 + 5 * 3 - 20
```

a. -5
b. 5
c. 25
d. -50

ANS: B

19. What is the result of the following expression?

```
25 / 4 + 4 * 10 % 3
```

a. 19
b. 5.25
c. 3
d. 7

ANS: D

20. What will be displayed as a result of executing the following code?

```
int x = 5, y = 20;
x += 32;
y /= 4;
System.out.println("x = " + x + ", y = " + y);
```

a. x = 32, y = 4
b. x = 9, y = 52
c. x = 37, y = 5
d. x = 160, y = 80

ANS: C

21. What will be the value of z as a result of executing the following code?

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```
int x = 5, y = 28;
float z;
z = (float) (y / x);
```

a. 5.60
b. 5.6
c. 3.0
d. 5.0

ANS: D

22. What will be the displayed when the following code is executed?

```
final int x = 22, y = 4;
y += x;
System.out.println("x = " + x +
                   ", y = " + y);
```

a. x = 22, y = 4
b. x = 22, y = 26
c. x = 22, y = 88
d. Nothing, this is an error

ANS: D

23. In the following Java statement what value is stored in the variable `name`?

```
String name = "John Doe";
```

a. John Doe
b. The memory address where "John Doe" is located
c. `name`
d. The memory address where `name` is located

ANS: B

24. What will be displayed as a result of executing the following code?

```
int x = 6;
String msg = "I am enjoying this class.";
String msg1 = msg.toUpperCase();
String msg2 = msg.toLowerCase();
char ltr = msg.charAt(x);
int strSize = msg.length();
System.out.println(msg);
System.out.println(msg1);
System.out.println(msg2);
System.out.println("Character at index x = " +
                   ltr);
System.out.println("msg has " + strSize +
                   "characters.");
```

a. I am enjoying this class.
   I AM ENJOYING THIS CLASS.

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i am enjoying this class.
Character at index x = e
msg has 24 characters.

b. I am enjoying this class.
I AM ENJOYING THIS CLASS.
i am enjoying this class.
Character at index x = e
msg has 25 characters.

c. I am enjoying this class.
I AM ENJOYING THIS CLASS.
i am enjoying this class.
Character at index x = n
msg has 24 characters.

d. I am enjoying this class.
I AM ENJOYING THIS CLASS.
i am enjoying this class.
Character at index x = n
msg has 25characters.

ANS: D

25. What will be displayed as a result of executing the following code?

```
public class test
{
   public static void main(String[] args)
   {
      int value1 = 9;
      System.out.println(value1);
      int value2 = 45;
      System.out.println(value2);
      System.out.println(value3);
      value = 16;
   }
}
```

a. 9
45
16
b. 94516
c. 9 45 16
d. Nothing, this is an error

ANS: D

26. Which of the following is not a valid comment statement?
a. `// comment 1`
b. `/* comment 2 */`
c. `*/ comment 3 /*`
d. `/** comment 4 */`

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ANS: C

27. When saving a Java source file, save it with an extension of
    a. `.javac`
    b. `.class`
    c. `.src`
    d. `.java`

    ANS: D

28. Every Java application program must have
    a. a class named `MAIN`
    b. a method named `main`
    c. comments
    d. integer variables

    ANS: B

29. To print "Hello, world" on the monitor, use the following Java statement
    a. `SystemOutPrintln("Hello, world");`
    b. `System.out.println{"Hello, world"}`
    c. `System.out.println("Hello, world");`
    d. `Print "Hello, world";`

    ANS: C

30. To display the output on the next line, you can use the `println` method or use this escape sequence in the `print` method.

    a. `\n`
    b. `\r`
    c. `\t`
    d. `\b`

    ANS: A

31. This is a named storage location in the computer's memory.
    a. Literal
    b. Constant
    c. Variable
    d. Operator

    ANS: C

32. What would be displayed as a result of the following code?

```
int x = 578;
System.out.print("There are " +
                 x + 5 + "\n" +
                 "hens in the hen house.");
```

    a. There are 583 hens in the hen house.

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b. There are 5785 hens in the hen house.
c. There are x5\nhens in the hen house.
d. There are 5785
hens in the hen house.

ANS: D

33. Variables are classified according to their
a. value
b. data type
c. names
d. location in the program

ANS: B

34. The primitive data types only allow a(n) _____ to hold a single value.
a. variable
b. object
c. class
d. literal

ANS: A

35. If `x` has been declared an `int`, which of the following statements is invalid?
a. `x = 0;`
b. `x = -58932;`
c. `x = 1,000;`
d. `x = 592;`

ANS: C

36. Given the declaration `double r;`, which of the following statements is invalid?
a. `r = 326.75;`
b. `r = 9.4632e15;`
c. `r = 9.4632E15;`
d. `r = 2.9X106;`

ANS: D

37. Variables of the `boolean` data type are useful for
a. working with small integers
b. evaluating true/false conditions
c. working with very large integers
d. evaluating scientific notation

ANS: B

38. What is the result of the following expression?

```
25 - 7 * 3 + 12 / 3
```

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a. 6
b. 8
c. 10
d. 12

ANS: B

39. What is the result of the following expression?

```
17 % 3 * 2 - 12 + 15
```

a. 7
b. 8
c. 12
d. 105

ANS: A

40. What will be displayed after the following statements have been executed?

```
int x = 15, y = 20, z = 32;
x += 12;
y /= 6;
z -= 14;
System.out.println("x = " + x +
                   ", y = " + y +
                   ", z = " +z);
```

a. x = 27, y = 3.333, z = 18
b. x = 27, y = 2, z = 18
c. x = 27, y = 3, z = 18
d. x = 37, y = 14, z = 4

ANS: C

41. What will be the value of z after the following statements have been executed?

```
int x = 4, y = 33;
double z;
z = (double) (y / x);
```

a. 8.25
b. 4
c. 8
d. 8.0

ANS: D

42. This is a variable whose content is read only and cannot be changed during the program's execution.

a. operator
b. literal
c. named constant

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d. reserved word

ANS: C

43. What will be displayed after the following statements have been executed?

```
final double x = 99.0;
x = 54.3;
System.out.println("x = " + x );
```

a. x = 54.3
b. x = 99
c. x = 153.3
d. Nothing, this is an error.

ANS: D

44. Which of the following is a valid Java statement?
a. `String str = 'John Doe';`
b. `string str = "John Doe";`
c. `string str = 'John Doe';`
d. `String str = "John Doe";`

ANS: D

45. What will be displayed as a result of executing the following code?

```
int x = 8;
String msg = "I am enjoying java.";
String msg1 = msg.toUpperCase();
String msg2 = msg.toLowerCase();
char ltr = msg.charAt(x);
int strSize = msg.length();
System.out.println(msg);
System.out.println(msg1);
System.out.println(msg2);
System.out.println("Character at index x = " +
                   ltr);
System.out.println("msg has " + strSize +
                   " characters.");
```

a. I am enjoying java.
I AM ENJOYING JAVA.
i am enjoying java.
Character at index x = j
msg has 20 characters.

b. I am enjoying java.
I AM ENJOYING JAVA.
i am enjoying java.
Character at index x = o
msg has 20 characters.

c. I am enjoying java.

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I AM ENJOYING JAVA.
i am enjoying java.
Character at index x = o
msg has 19 characters.

d. I am enjoying java.
I AM ENJOYING JAVA.
i am enjoying java.
Character at index x = y
msg has 19 characters.

ANS: C

46. Which of the following does not describe a valid comment in Java?
a. Single line comments, two forward slashes - `//`
b. Multi-line comments, start with `/*` and end with `*/`
c. Multi-line comments, start with `*/` and end with `/*`
d. Documentation comments, any comments starting with `/**` and ending with `*/`

ANS: C

47. Which of the following statements correctly creates a `Scanner` object for keyboard input?

a.
```
Scanner kbd = new Scanner(System.keyboard);
```

b.
```
Scanner keyboard(System.in);
```

c.
```
Scanner keyboard = new Scanner(System.in);
```

d.
```
Keyboard scanner = new Keyboard(System.in);
```

ANS: C

48. Which `Scanner` class method reads an `int`?

a. `readInt()`
b. `nextInt()`
c. `getInt()`
d. `read_int()`

ANS: B

49. Which `Scanner` class method reads a `String`?

a. `readString()`
b. `nextString()`
c. `getString()`
d. `nextLine()`

ANS: D

50. Which one of the following methods would you use to convert a string to a `double`?

a. `Byte.ParseByte`
b. `Long.ParseLong`
c. `Integer.ParseInt`
d. `Double.ParseDouble`

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ANS: D

TRUE/FALSE

1. A Java program will not compile unless it contains the correct line numbers.

   ANS: F

2. All Java statements end with semicolons.

   ANS: F

3. Java is a case-insensitive language.

   ANS: F

4. Although the dollar sign is a legal identifier character, you should not use it because it is normally used for special purposes.

   ANS: T

5. Assuming that `pay` has been declared a `double`, the following statement is valid.
   ```
   pay = 2,583.44;
   ```

   ANS: F

6. Named constants are initialized with a value, that value cannot be changed during the execution of the program.

   ANS: T

7. A variable's scope is the part of the program that has access to the variable.

   ANS: T

8. In Java the variable named `total` is the same as the variable named `Total`.

   ANS: F

9. Class names and key words are examples of variables.

   ANS: F

10. Both character literals and string literals can be assigned to a `char` variable.

    ANS: F

11. If the compiler encounters a statement that uses a variable before the variable is declared, an error will result.

    ANS: T

12. Programming style includes techniques for consistently putting spaces and indentation in a program so visual cues are created.

    ANS: T

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