

TEST BANK

COMPREHENSIVE VERSION

INTRODUCTION TO
JAVA™
PROGRAMMING

SEVENTH EDITION



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MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) 25 % 1 is _____. 1) _____
A) 2 B) 1 C) 0 D) 4 E) 3

Answer: C

- 2) Which of the following expressions will yield 0.5? (choose all that apply) 2) _____
A) 1 / 2
B) (double) (1 / 2)
C) (double) 1 / 2
D) 1.0 / 2
E) 1 / 2.0

Answer: C, D, E

- 3) Will System.out.println((char)4) display 4? 3) _____
A) Yes B) No

Answer: B

- 4) 24 % 5 is _____. 4) _____
A) 0 B) 4 C) 3 D) 2 E) 1

Answer: B

- 5) To add number to sum, you write (Note: Java is case-sensitive. Choose all that apply) 5) _____
A) number = sum + number;
B) sum = Number + sum;
C) number += sum;
D) sum = sum + number;
E) sum += number;

Answer: D, E

- 6) What is y displayed in the following code? 6) _____

```
public class Test {  
    public static void main(String[] args) {  
        int x = 1;  
        int y = x++ + x;  
        System.out.println("y is " + y);  
    }  
}
```

- A) y is 2. B) y is 3. C) y is 1. D) y is 4.
Answer: B

- 7) What is the value of (double)(5/2)? 7) _____
A) 3; B) 3.0; C) 2.5; D) 2.0; E) 2;

Answer: D

- 8) Which of the following is the correct expression of character 4? 8) _____
A) "4" B) '4' C) 4 D) '\0004'

Answer: B

9) The _____ method displays an input dialog for reading a string. 9) _____
 (choose all that apply)

- A) String string = JOptionPane.showMessageDialog(null, "Enter a string", "Input Demo", JOptionPane.QUESTION_MESSAGE);
- B) String string = JOptionPane.showInputDialog(null, "Enter a string", "Input Demo", JOptionPane.QUESTION_MESSAGE);
- C) String string = JOptionPane.showInputDialog("Enter a string");
- D) String string = JOptionPane.showInputDialog("Enter a string", "Input Demo", JOptionPane.QUESTION_MESSAGE);
- E) String string = JOptionPane.showInputDialog(null, "Enter a string");

Answer: B, C, E

10) If a program compiles fine, but it produces incorrect result, then the program suffers _____. 10) _____

- A) a compilation error
- B) a runtime error
- C) a logic error

Answer: C

11) What is y displayed? 11) _____

```
public class Test {
    public static void main(String[] args) {
        int x = 1;
        int y = x + x++;
        System.out.println("y is " + y);
    }
}
```

- A) y is 3.
- B) y is 1.
- C) y is 2.
- D) y is 4.

Answer: C

12) The expression (int)(76.0252175 * 100) / 100 evaluates to _____. 12) _____

- A) 76.0252175
- B) 76.03
- C) 76
- D) 76.02

Answer: C

13) The expression "Java " + 1 + 2 + 3 evaluates to _____. 13) _____

- A) Java6
- B) java 123
- C) Illegal expression
- D) Java123
- E) Java 123

Answer: E

14) What is i printed in the following code? } 14)
 }

```
public class Test {
    public static void main(String[] args) {
        int j = 0;
        int i = j++ + j * 5;
        System.out.println("What is i? " + i);
    }
}
```

_____ A) 6 B) 1 C) 5 D) 0
Answer: C

15) The `System.currentTimeMillis()` returns _____. 15) _____
A) the current time in milliseconds since midnight, January 1, 1970
GMT (the Unix time)
B) the current time in milliseconds since midnight, January 1, 1970
C) the current time in milliseconds
D) the current time in milliseconds since midnight
E) the current time

Answer: A

16) The _____ method parses a string `s` to an `int` value. 16) _____
A) `Integer.parseInt(s);` B) `integer.parseInt(s);`
C) `Integer.parseInteger(s);` D) `integer.parseInteger(s);`

Answer: A

17) To improve readability and maintainability, you should declare _____ instead of using literal values such as `3.14159`. 17) _____
A) methods B) constants C) classes D) variables

Answer: D

18) Which of the following is a valid identifier? (choose all that apply) 18) _____
A) `8+9`
B) `$343`
C) `class`
D) `radius`
E) `9X`

Answer: B, D

19) Programming style is important, because _____. (choose all that apply) 19) _____
A) good programming style can make a program run faster
B) a program may not compile if it has a bad style
C) good programming style helps reduce programming errors
D) good programming style makes a program more readable

Answer: C, D

20) To assign a value `1` to variable `x`, you write 20) _____
A) `x == 1;`
B) `x = 1;`
C) `1 = x;`
D) `x := 1;`
E) `1 := x;`

Answer: B

21) Analyze the following code. } 21)
}

```
public class Test {  
    public static void main(String[] args) {  
        int month = 09;  
        System.out.println("month is " + month);  
    }  
}
```

- _____
- A) The program displays month is 9.0
 - B) The program displays month is 09
 - C) The program has a syntax error, because 09 is an incorrect literal value.
 - D) The program displays month is 9

Answer: C

- 22) Every letter in a Java keyword is in lowercase. 22) _____
- A) true
 - B) false

Answer: A

- 23) To assign a double variable d to a float variable x, you write 23) _____
- A) x = (int)d;
 - B) x = (long)d
 - C) x = (float)d;
 - D) x = d;

Answer: C

- 24) The _____ method parses a string s to a double value. 24) _____
- A) Double.parseDouble(s);
 - B) double.parse(s);
 - C) double.parseDouble(s);
 - D) Double.parsedouble(s);

Answer: A

- 25) To declare an int variable number with initial value 2, you write 25) _____
- A) int number = 2.0;
 - B) int number = 2;
 - C) int number = 2L;
 - D) int number = 2l;

Answer: B

- 26) Which of the following assignment statements is correct? (choose all that apply) 26) _____
- A) char c = 100;
 - B) char c = 'd';
 - C) char c = "d";
 - D) char c = "100";

Answer: A, B

- 27) Which of the following are correct names for variables according to Java naming conventions? (choose all that apply) 27) _____
- A) FindArea
 - B) radius
 - C) findArea
 - D) RADIUS
 - E) Radius

Answer: B, C

- 28) To declare a constant MAX_LENGTH inside a method with value 99.98, you write 28) _____
- A) final float MAX_LENGTH = 99.98;
 - B) double MAX_LENGTH = 99.98;
 - C) final MAX_LENGTH = 99.98;
 - D) final double MAX_LENGTH = 99.98;

Answer: D

- 29) What is i printed? _____
- ```
public class Test {
 p c static
 ubli void
```

```

main(Stri 29)
ng[]
args) {
 int j
= 0;
 int i
= ++j + j *
5;

```

—  
—

```

System
.out.print
ln("What
is i? " +
i);
}
}

```

- A) 1                      B) 0                      C) 5                      D) 6  
 Answer: D

30) The following code fragment reads in two numbers: 30) \_\_\_\_\_

```

Scanner scanner = new Scanner(System.in);
int i = scanner.nextInt();
double d = scanner.nextDouble();

```

What are the correct ways to enter these two numbers? (choose all that apply)

- A) Enter an integer, two spaces, a double value, and then the Enter key.
- B) Enter an integer, a space, a double value, and then the Enter key.
- C) Enter a numeric value with a decimal point, a space, an integer, and then the Enter key.
- D) Enter an integer, an Enter key, a double value, and then the Enter key.

Answer: A, B, D

31) The Unicode of 'a' is 97. What is the Unicode for 'c'? 31) \_\_\_\_\_

- A) 97                      B) 96                      C) 98                      D) 99  
 Answer: D

32) What is the printout of the following code: 32) \_\_\_\_\_

```

double x = 5.5;
int y = (int)x;
System.out.println("x is " + x + " and y is " + y);

```

- A) x is 5.5 and y is 5
  - B) x is 5 and y is 6
  - C) x is 6 and y is 6
  - D) x is 5.5 and y is 5.0
  - E) x is 6.0 and y is 6.0
- Answer: A

33) Which of the following are correct ways to declare variables? (choose all that apply) 33) \_\_\_\_\_  
A) int length, width; B) int length, int width;  
C) int length; width; D) int length; int width;  
Answer: A, D

34) Which of the following assignment statements is illegal? (choose all that apply) 34) \_\_\_\_\_  
A) int t = (int>false;  
B) float f = -34;  
C) short s = 10;  
D) int t = 4.5;  
E) int t = 23;  
Answer: A, D

35) Note that the Unicode for character A is 65. The expression 'A' + 1 evaluates to \_\_\_\_\_. 35) \_\_\_\_\_  
A) A1 B) B  
C) 66 D) Illegal expression  
Answer: C

36) A Java character is stored in \_\_\_\_\_. 36) \_\_\_\_\_  
A) four bytes B) two bytes  
C) one byte D) three bytes  
Answer: B

37) Suppose a Scanner object is created as follows: 37) \_\_\_\_\_  
`Scanner scanner = new Scanner(System.in);`  
What method do you use to read an int value?  
A) scanner.nextInt(); B) scanner.int();  
C) scanner.nextInteger(); D) scanner.integer();  
Answer: A

38) The \_\_\_\_\_ method returns a raised to the power of b. 38) \_\_\_\_\_  
A) Math.pow(b, a) B) Math.pow(a, b)  
C) Math.exponent(a, b) D) Math.power(a, b)  
Answer: B

39) Analyze the following code. 39) \_\_\_\_\_

```
import javax.swing.*;

public class ShowErrors {
 public static void main(String[] args) {
 int i;
 int j;
 String s = JOptionPane.showInputDialog(null,
 "Enter an integer", "Input",
 JOptionPane.QUESTION_MESSAGE);
 j = Integer.parseInt(s);
 }
}
```

- A) The program cannot compile because i does not have an initial value when it is used in `i = i + 4`;  
B) The program compiles but has a runtime error because i does not have an initial value when it is used in `i = i + 4`;  
C) The program compiles and runs fine.  
D) The program cannot compile because j is not initialized.

Answer: A

- 40) What is the printout of `System.out.println('z' - 'a')`? 40) \_\_\_\_\_  
A) z                      B) 26                      C) 25                      D) a

Answer: C

- 41) \_\_\_\_\_ is the Java assignment operator. 41) \_\_\_\_\_  
A) =:                      B) :=                      C) ==                      D) =

Answer: D

- 42) An int variable can hold \_\_\_\_\_. (choose all that apply) 42) \_\_\_\_\_  
A) 'x'                      B) 120.0                      C) "120"                      D) 120                      E) "x"

Answer: A, D

- 43) Suppose i is an int type variable. Which of the following statements display the character whose Unicode is stored in variable i? 43) \_\_\_\_\_  
A) `System.out.println((int)i);`                      B) `System.out.println((char)i);`  
C) `System.out.println(i + " ");`                      D) `System.out.println(i);`

Answer: B

- 44) Note that the Unicode for character A is 65. The expression `"A" + 1` evaluates to \_\_\_\_\_. 44) \_\_\_\_\_  
A) Illegal expression                      B) B  
C) A1                      D) 66

Answer: C

- 45) Which of the following assignment statements is incorrect. (choose all that apply) 45) \_\_\_\_\_  
A) `i == j == k == 1;`                      B) `i = 1; j = 1; k = 1;`  
C) `i = 1 = j = 1 = k = 1;`                      D) `i = j = k = 1;`

Answer: A, C

- 46) `-24 % -5` is \_\_\_\_\_. 46) \_\_\_\_\_  
A) 4                      B) 3                      C) 0                      D) -4                      E) -3

Answer: D

- 47) Which of the following statement prints `smith\exam1\test.txt`? 47) \_\_\_\_\_  
A) `System.out.println("smith\exam1\test.txt");`  
B) `System.out.println("smith\"exam1\"test.txt");`  
C) `System.out.println("smith\\exam1\\test.txt");`  
D) `System.out.println("smith"\exam1"\test.txt");`

Answer: C

- 48) Which of the following expression results in a value 1? 48) \_\_\_\_\_  
A) `37 % 6`                      B) `2 % 1`                      C) `25 % 5`                      D) `15 % 4`



Answer: A

49) Which of the following is a constant, according to Java naming conventions? (choose all that apply) 49) \_\_\_\_\_

- A) ReadInt
- B) MAX\_VALUE
- C) COUNT
- D) read
- E) Test

Answer: B, C

50) what is y displayed in the following code? 50) \_\_\_\_\_

```
public class Test1 {
 public static void main(String[] args) {
 int x = 1;
 int y = x = x + 1;
 System.out.println("y is " + y);
 }
}
```

- A) y is 2 because  $x + 1$  is assigned to  $x$  and then  $x$  is assigned to  $y$ .
- B) y is 0.
- C) y is 1 because  $x$  is assigned to  $y$  first.
- D) The program has a syntax error since  $x$  is redeclared in the statement  $\text{int } y = x = x + 1$ .

Answer: A

51) To add a value 1 to variable  $x$ , you write (choose all that apply) 51) \_\_\_\_\_

- A)  $x = x + 1$ ;
- B)  $1 + x = x$ ;
- C)  $x := 1$ ;
- D)  $x += 1$ ;
- E)  $x = 1 + x$ ;

Answer: A, D, E

52) Suppose  $x$  is a char variable with a value 'b'. What is the printout of the statement `System.out.println(++x)`? 52) \_\_\_\_\_

- A) d
- B) c
- C) a
- D) b

Answer: B

53)  $-24 \% 5$  is \_\_\_\_\_. 53) \_\_\_\_\_

- A) -3
- B) -4
- C) -2
- D) 0
- E) -1

Answer: B

54) What is the value of  $(\text{double})5/2$ ? 54) \_\_\_\_\_

- A) 2.5;
- B) 2;
- C) 3;
- D) 2.0;
- E) 3.0;

Answer: A

55)  $-25 \% 5$  is \_\_\_\_\_. 55) \_\_\_\_\_

- A) 1
- B) 2
- C) 3
- D) 0
- E) 4

Answer: D

- 56) What is the result of  $45 / 4$ ? 56) \_\_\_\_\_  
A) 11                      B) 12                      C) 11.25                      D) 10  
Answer: A
- 57) Which of these data type requires the most amount of memory? 57) \_\_\_\_\_  
A) int                      B) short                      C) long                      D) byte  
Answer: C
- 58) According to Java naming convention, which of the following names can be variables? (choose all that apply) 58) \_\_\_\_\_  
A) findArea  
B) totalLength  
C) FindArea  
D) class  
E) TOTAL\_LENGTH  
Answer: A, B
- 59) Which of these data types requires the least amount of memory? 59) \_\_\_\_\_  
A) float                      B) short                      C) byte                      D) double  
Answer: C
- 60) The result of an integer division is the integer part of the division; the fraction part is truncated. 60) \_\_\_\_\_  
A) true                                              B) false  
Answer: A
- 61) You can define a constant twice in a block. 61) \_\_\_\_\_  
A) true                                              B) false  
Answer: B
- 62) pow is a method in the \_\_\_\_\_ class. 62) \_\_\_\_\_  
A) System                      B) Double                      C) Math                      D) Integer  
Answer: C
- 63) The assignment operator in Java is \_\_\_\_\_. 63) \_\_\_\_\_  
A) <-                      B) :=                      C) =                      D) = =  
Answer: C
- 64) A Java statement ends with a \_\_\_\_\_. 64) \_\_\_\_\_  
A) comma (,)                                              B) semicolon (;)  
C) period (.)                                              D) closing brace  
Answer: B
- 65) parseDouble is a method in the \_\_\_\_\_ class. 65) \_\_\_\_\_  
A) Math                      B) Double                      C) System                      D) Integer  
Answer: B
- 66) The keyword \_\_\_\_\_ must be used to declare a constant. 66) \_\_\_\_\_  
A) const  
B) final  
C) int  
D) double

E) static  
Answer: B

67)  $5 \% 4$  is \_\_\_\_\_.  
A) 1      B) 4      C) 0      D) 3      E) 2      67) \_\_\_\_\_  
Answer: A

68) What is the printout of the following code:      68) \_\_\_\_\_

```
double x = 10.1;
int y = (int)x;
System.out.println("x is " + x + " and y is " + y);
```

A) x is 11 and y is 11  
B) x is 10.1 and y is 10  
C) x is 10.1 and y is 10.0  
D) x is 10 and y is 10  
E) x is 10.0 and y is 10.0  
Answer: B

69) You can cast a character value to an int, or an int to char.      69) \_\_\_\_\_  
A) true      B) false  
Answer: A

70) \_\_\_\_\_ are valid Java identifiers. (choose all that apply)      70) \_\_\_\_\_  
A) 3ere      B) int      C) \$Java      D) 4+4      E) \_RE4  
Answer: C, E

71)  $-5 \% 5$  is \_\_\_\_\_.  
A) -1      B) -4      C) -3      D) 0      E) -2      71) \_\_\_\_\_  
Answer: D

72)  $-15 \% 4$  is \_\_\_\_\_.  
A) -2      B) -3      C) -4      D) -1      E) 0      72) \_\_\_\_\_  
Answer: B

73) Which of the following assignment statements is illegal?      73) \_\_\_\_\_  
A) float f = 34.0;      B) int t = 23;  
C) short s = 10;      D) float f = -34;  
Answer: A

74)  $5 \% 2$  is \_\_\_\_\_.  
A) 3      B) 4      C) 2      D) 1      E) 0      74) \_\_\_\_\_  
Answer: D

75)  $5 \% 5$  is \_\_\_\_\_.  
A) 0      B) 4      C) 2      D) 3      E) 1      75) \_\_\_\_\_  
Answer: A

76) An int variable can hold \_\_\_\_\_. (choose all that apply)      76) \_\_\_\_\_  
A) true      B) 98.3      C) 'x'      D) 93  
Answer: C, D

- 77) A variable may be assigned a value only once in the program. 77) \_\_\_\_\_  
A) true B) false  
Answer: B
- 78) parseInt is a method in the \_\_\_\_\_ class. 78) \_\_\_\_\_  
A) Integer B) Math C) System D) Double  
Answer: A
- 79) 5 % 1 is \_\_\_\_\_. 79) \_\_\_\_\_  
A) 3 B) 2 C) 1 D) 0 E) 4  
Answer: D
- 80) You can define a variable twice in a block. 80) \_\_\_\_\_  
A) true B) false  
Answer: B
- 81) You can change the value of a constant. 81) \_\_\_\_\_  
A) true B) false  
Answer: B
- 82) The value of a variable can be changed. 82) \_\_\_\_\_  
A) true B) false  
Answer: A
- 83) If you attempt to add an int, a byte, a long, and a double, the result will 83) \_\_\_\_\_  
be a \_\_\_\_\_ value.  
A) byte B) double C) long D) int  
Answer: B
- 84) You can always assign a value of int type to a variable of long type 84) \_\_\_\_\_  
without loss of information.  
A) true B) false  
Answer: A
- 85) Which of the following is a constant, according to Java naming 85) \_\_\_\_\_  
conventions?  
A) read B) ReadInt  
C) Test D) MAX\_VALUE  
Answer: D
- 86) You can always assign a value of long type to a variable of int type 86) \_\_\_\_\_  
without loss of precision.  
A) true B) false  
Answer: B
- 87) Which of the following is the correct expression of character a? 87) \_\_\_\_\_  
A) 'a' B) '\a' C) '\000a' D) "a"  
Answer: A
- 88) To add a to b and store result in b, you write (Note: Java is 88) \_\_\_\_\_  
case-sensitive)  
A) a += b; B) b += a;

C)  $a = b + a;$

D)  $b = A + b;$

Answer: B

89) What is  $1 \% 2?$

A) 1

B) 0

C) 2

89) \_\_\_\_\_

Answer: A

90) To declare a constant PI, you write

A) `static double PI = 3.14159;`

B) `final static PI = 3.14159;`

C) `final float PI = 3.14159;`

D) `final double PI = 3.14159;`

90) \_\_\_\_\_

Answer: D

91) To assign a double variable d to an int variable x, you write

A) `x = (long)d`

B) `x = (int)d;`

C) `x = d;`

D) `x = (float)d;`

91) \_\_\_\_\_

Answer: B

92) If a program compiles fine, but it terminates abnormally at runtime, then the program suffers \_\_\_\_\_.

A) a logic error

B) a runtime error

C) a syntax error

92) \_\_\_\_\_

Answer: B

93) Is 'a' larger than 'A'?

A) Yes

B) No

93) \_\_\_\_\_

Answer: A

94) You can cast a double value to \_\_\_\_\_. (choose all that apply)

A) short

B) byte

C) long

D) float

E) int

94) \_\_\_\_\_

Answer: A, B, C, D, E

95)  $-15 \% -4$  is \_\_\_\_\_.

A) -3

B) 0

C) -4

D) -1

E) -2

95) \_\_\_\_\_

Answer: A

96) Any assignment statement can be used as an assignment expression.

A) true

B) false

96) \_\_\_\_\_

Answer: A

97) Which of the following operators has the highest precedence?

A) casting

B) +

C) /

D) \*

97) \_\_\_\_\_

Answer: A

98) To declare an int variable x with initial value 200, you write

A) `int x = 200I;`

B) `int x = 200;`

C) `int x = 200.0;`

D) `int x = 200L;`

98) \_\_\_\_\_

Answer: B

99) `currentTimeMills` is a method in the \_\_\_\_\_ class.

A) Double

B) Math

C) System

D) Integer

99) \_\_\_\_\_

Answer: C

100) What is `"Welcome" + 1 + 1*2?`

100) \_\_\_\_\_

A) Welcome12

B) Welcome11\*2

C) Welcome3

D) Welcome4

Answer: A

101)  $5 \% 3$  is \_\_\_\_\_.

A) 3

B) 4

C) 0

D) 1

E) 2

Answer: E

101) \_\_\_\_\_

102) Which of the following assignment statements is correct to assign character 5 to c?

A) `char c = "5";`

B) `char c = "344";`

C) `char c = 5;`

D) `char c = '5';`

Answer: D

102) \_\_\_\_\_

- 1) C
- 2) C, D, E
- 3) B
- 4) B
- 5) D, E
- 6) B
- 7) D
- 8) B
- 9) B, C, E
- 10) C
- 11) C
- 12) C
- 13) E
- 14) C
- 15) A
- 16) A
- 17) D
- 18) B, D
- 19) C, D
- 20) B
- 21) C
- 22) A
- 23) C
- 24) A
- 25) B
- 26) A, B
- 27) B, C
- 28) D
- 29) D
- 30) A, B, D
- 31) D
- 32) A
- 33) A, D
- 34) A, D
- 35) C
- 36) B
- 37) A
- 38) B
- 39) A
- 40) C
- 41) D
- 42) A, D
- 43) B
- 44) C
- 45) A, C
- 46) D
- 47) C
- 48) A
- 49) B, C
- 50) A
- 51) A, D, E

- 52) B
- 53) B
- 54) A
- 55) D
- 56) A
- 57) C
- 58) A, B
- 59) C
- 60) A
- 61) B
- 62) C
- 63) C
- 64) B
- 65) B
- 66) B
- 67) A
- 68) B
- 69) A
- 70) C, E
- 71) D
- 72) B
- 73) A
- 74) D
- 75) A
- 76) C, D
- 77) B
- 78) A
- 79) D
- 80) B
- 81) B
- 82) A
- 83) B
- 84) A
- 85) D
- 86) B
- 87) A
- 88) B
- 89) A
- 90) D
- 91) B
- 92) B
- 93) A
- 94) A, B, C, D, E
- 95) A
- 96) A
- 97) A
- 98) B
- 99) C
- 100) A
- 101) E
- 102) D