

# Practice Multiple Choice

## SECTION I

Time — 1 hour and 15 minutes

Number of questions — 40

Percent of total grade — 50

1. What is printed when the following statement is executed?

```
System.out.println(17 / 5 % 3 + 17 * 5 % 3);
```

- (A) 1
- (B) 4
- (C) 9
- (D) 42
- (E) 42.5

$(3 \% 3 + 85 \% 3)$

$0 + 1$

**1**

2. Consider the following method.

```
public void process(String s)
{
    s = s.substring(2, 3) + s.substring(1, 2) +
    s.substring(0, 1);
}
```

$\rightarrow C + B + A \leftarrow$

What is printed as a result of executing the following statements (in a method in the same class)?

```
String s = "ABCD";
process(s);
System.out.println(s);
```

0 1 2 3  
A B C D

- (A) ABCD
- (B) CBA
- (C) CDBCA
- (D) CDBCAB
- (E) IndexOutOfBoundsException

$\leftarrow$  s hasn't changed!

3. What is printed as a result of executing the following statements?

```
double x = 2.5, y = 1.99;
System.out.println((int)(x/y) + (int)(x*y));
```

- (A) 0
- (B) 3
- (C) 4
- (D) 4.0
- (E) 5

$$(int)(2.5/1.99) + (int)(2.5 * 1.99)$$

$$(int)(1.256...) + (int)(4.975)$$

$$1 + 4$$

$$5$$

4. Which of the following expressions is true if and only if NOT all three variables a, b, and c have the same value?

- (A)  $a != b \ \&\& \ b != c$
- (B)  $a != b \ || \ b != c$
- (C)  $a >= b \ \&\& \ b >= c \ \&\& \ c >= a$
- (D)  $a > b \ || \ b > c \ || \ a > c$
- (E)  $!(a == b \ || \ b == c \ || \ a == c)$

$$!(a == b \ \&\& \ b == c)$$

$$!(a == b) \ || \ !(b == c)$$

$$a != b \ || \ b != c$$

5. What is the result when the following code segment is compiled and executed?

```
int m = 4, n = 5;
double d = Math.sqrt((m + n)/2);
System.out.println(d);
```

$$d = \sqrt{9/2}$$

$$d = \sqrt{4} = 2$$

- (A) Syntax error "sqrt(double) in java.lang.Math cannot be applied to int"
- (B) 1.5 is displayed
- (C) 2.0 is displayed
- (D) 2.1213203435596424 is displayed
- (E) ArithmeticException

6. For which of the following pairs of values a and b does the expression

$$(a > 20 \ \&\& \ a < b) \ || \ (a > 10 \ \&\& \ a > b)$$

evaluate to true?

- (A) 5 and 0  $(5 > 20 \ \&\& \ 5 < 0) \ || \ (5 > 10 \ \&\& \ 5 > 0)$  ← no!
- (B) 5 and 10  $(5 > 20 \ \&\& \ 5 < 10) \ || \ (5 > 10 \ \&\& \ 5 > 10)$  ← no!
- (C) 15 and 10  $(15 > 20 \ \&\& \ 15 < 10) \ || \ (15 > 10 \ \&\& \ 15 > 10)$
- (D) 15 and 20
- (E) None of the above

↑ true! OR symbol means only one condition must be true