

QUESTION 1

I typed in the following program. It compiles fine, but when I execute it, I get the error **java.lang.NoSuchMethodError: main**. What am I doing wrong?

```
public class Hello {  
    public static void main() {  
        System.out.println("Doesn't execute");  
    }  
}
```

QUESTION 2

Is there any difference between

$a += b$

and

$a = a + b,$

where a and b are primitive types?

QUESTION 3

What does the following sequence of statements do?

```
t = x;  
x = y;  
y = t;
```

QUESTION 4

What does the following code fragment print out?

```
double x = (double) (3/5)  
System.out.println(x);
```

QUESTION 5

What does the compiler do if you try to write the following expression:

```
double x;  
System.out.println(x);
```

QUESTION 6

What does the following statement do where grade is a variable of type int?

```
if (97 <= grade <= 100)
    System.out.println("A+")
else
    System.out.println("Try harder");
```

QUESTION 7

What of the following statements is legal?

```
boolean b = 1;
```

```
boolean b = true;
```

```
boolean b = "true";
```

```
boolean b = True;
```

QUESTION 8

What is wrong with the following code fragment?

```
double x = -32.2;
boolean isPositive = (x > 0);
if (isPositive = true)
    System.out.println(x+"is positive");
else
    System.out.println(x+"is not
positive");
```

QUESTION 9

What is the value of `i` after the following confusing code is executed?

```
int i = 10;  
i = i++;  
i = ++i;  
i = i++ + ++i;
```

Question 10

What is wrong with the following code?

```
class Wrong {
    public static void main(String args[])
    {
        int x = 3;
        printX();
    }

    public static void printX() {
        System.out.println("x is " + x);
    }
}
```

Can you fix it?

QUESTION 11

Why can't you write a swap method in Java?

QUESTION 12

How would you, in Java, get a random number between 5 and 10?

Write a method called `coinToss` that returns 0 for heads and 1 for tails.

QUESTION 13

Write a recursive method to compute the sum of numbers from 1 to some N.

```
public static int sum(int N) {  
  
  
  
  
  
  
  
  
  
}
```

QUESTION 14

Rewrite the following section of code using a for loop instead of a while loop.

```
int sum = 0;
int count = -5;
while ( count <= 15 )
{
    sum = sum + count;
    count++;
}
```

QUESTION 15

Fix the error in the following code fragment. It is intended that the loop will find the minimum element of array `v`.

```
int[ ] v = new int[10];  
. . . // values are assigned to elements of v  
int min = v[0];  
for (int i = 1; i <= 10; i++)  
    if (v[i] < min)  
        min = v[i];
```

QUESTION 16

Which of the following expressions would correctly extract the digit in the tens column of a four-digit decimal number store in value?

- $\text{value} / 100$
- $10 * \text{value} \% 100$
- $\text{value} \% 100 / 10$
- $\text{value} - \text{value} \% 10$
- none of the above

QUESTION 17

What does a compiler do?

1. Run your application.
2. Translate source code to byte code.
3. Check syntax.
4. 2 and 3
5. 1, 2, and 3

QUESTION 18

For an integer variable i , which of the following is NOT equivalent to the others?

$$i = i + 1$$

$$i++$$

$$i += 1$$

$$i + 1 = i$$

QUESTION 19

What is the output of the while statement below?

```
int x = 1;
while (x < 10) {
    x = x + 2;
    System.out.print(x);
}
```

QUESTION 20

Consider the code segment written below.

```
int x=3;
switch(x){
    case 4:    x=2; break;
    case 3:    x=1; break;
    case 2:    x=0; break;
    default:   x=4; break;
}
```

1. What is the value of x at the end of the statement?
2. What would the value of x be, if the break statements were missing?

QUESTION 21

Which statement is not true?

- A. Parameters and arguments do not have to have the same name.
- B. Changes made to a parameter will affect the value of the corresponding argument.
- C. Arguments are passed to a method using the pass-by-value scheme.
- D. The number of arguments in the method call must match the number of parameters in the method definition.

QUESTION 22

The value of the expression

`(1 < 2 && 3 > 2) || 4 == 5`

- A. true B. false C. null D. void

Good luck!