Test 1
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Test1_20q.md 8.2 KB

1

Consider the code segment below.

```
int x = 10;
int y = 20;
System.out.print(y + x / y);
```

What is printed as a result of executing the code segment?

2

Consider the following code segment.

```
int a = 1;
int b = 2;
int c = 3;
int d = 3;
double x = a + b * c % d;
```

What is the value of x when the code segment has been executed?

3

The volume of a cone is equal to the 1/3 height times the area of the circular base. The area of the circular base is equal to π (pi) times the square of the radius.

The code segment below is intended to compute and print the volume of a cylinder with radius r and height h. Assume that the double variables r, h, and pi have been properly declared and initialized.

```
/* missing code */

System.out.print(volume);
```

Which of the following can be used to replace `/* missing code */` so that the code segment works as intended?

```
double volume = pi * r * r;
volume *= h;
volume /= 3;
```

```
double volume = pi * r * r * h;
```

```
double baseArea = pi * r * r;
double volume = h / 3 * baseArea;
```

4

Consider the following code segment.

```java
int x;
int y;
x = 3;
y = /* missing expression */;
x = 1 + 2 * y;
System.out.print(x);
System.out.println(y);
```

Which of the following can be used as a replacement for `/* missing expression */` so that the code segment prints **94** ?

- `3`
- `x`
- `x - 1`
- `x + 1`
- `1 - 2 * x`

5

Consider the following code segment.

```java
System.out.println("Java");
System.out.print("hěn ");
System.out.print("yǒuqù!");
```

What is printed as a result of executing the code segment?

6

Consider the following code segment, which is intended to display 0.5.

```java
int num1 = 5;
int num2 = 10;
double ans = num1 / num2;
System.out.print(ans);
```

Which of the following best describes the error, if any, in the code segment? of the following best describes the error, if any, in the code segment?

- There is no error and the code works as intended.
- The code should have cast the expression num1 / num2 to double.
- The code should have cast either num1 or num2 in the expression num1 / num2 to double.
- The code should have declared ans as an int.
- The code should have initialized num1 to 5.0 and num2 to 10.0.

7

Consider the following code segment.

```java
double pi = 3.14159;
double e = 2.71828;
double x = 0;
System.out.println((int) (pi / 2));
System.out.print((int) Math.pow(e,x));
```

What is printed as a result of executing the code segment?

8

Consider the following code segment.

```
double a = 8;
int b = (int) (a / 3);
double c = (double) b / 4;
System.out.print(b);
System.out.print(" ");
System.out.print(c);
```

What is printed as a result of executing the code segment?

9

Consider the following code segment.

```
int x = 10;
int y = 5;
int z = x;
z /= y;
z += 2;
System.out.print(z);
```

What is printed as a result of executing the code segment?

10

Consider the following code segment.

```
int num = 5;
num *= 4;
num %= 6;
```

What is the value of num after the code segment is executed?

11

The method below is intended to return the area of an ***isosceles right triangle*** whose sides are length **s** units. The area of the triangle is **(1/2)s^2**.

```
public double isoRightTriangleArea(double s)
{
    return /* missing code */
}
```

Which of the following can be used to replace `/* missing code */` so that the method works as intended?

- `pow(s, 2) * 0.5;`
- `s.pow(2) * 0.5;`
- `(1/2) * Math.pow(s);`
- `Math.pow(s, 2) / 2;`
- `Math.pow(2, s) / 2;`

12

Consider the following code segment.

```
String s1 = "ABCDEFGHI";
String s2 = s1.substring(1, 3);
String s3 = "abcdefghi";
String s4 = s3.substring(s3.length()-1, s3.length());
```

```
String s5 = s3.substring(0, 3);
System.out.print(s2 + " " + s4 + " " + s5);
```

What is printed when the code segment is executed?

13

Consider the following code segment.

```
String helloChinese = "你好";
String helloKorean = "안녕하세요";
String helloJapanese = "こんにちは";
String str1 = helloChinese.substring(0, 1);
String str2 = helloKorean.substring(0, 1);
String str3 = helloJapanese.substring(0, 1);
System.out.println(str1 + " " + str2 + " " + str3);
```

What is printed when the code segment is executed?

14

Circle one or more of the following code segments that can be used to set the value of the string **str** to "**Be quick to listen, slow to speak, and slow to get angry**".

```
String str = "Be quick to listen, " + "slow to speak, " + " and slow to get angry";
```

```
String str = "Be quick to listen";
str += " slow to speak, and slow to get angry!";
```

```
String str = " slow ";
str = "Be quick to listen," + str + "to speak, and slow to get angry";
```

15

The cost per unit (kWh) of electric power from a certain city power company is shown the table below.

Units Used	Price per Unit
0 up to but not including 100	0.5
100 up to but not including 200	0.7
200 or greater	1.1

The following incomplete method is intended to return the total cost of power usage based on the value of the parameter **unitsUsed**.

```
public static double getCost(int unitsUsed)
{
    double totalCost = 0.0;

    /* missing code */

    return totalCost;
}
```

Which of the following code segments can be used to replace `/* missing code */` so that method getCost will work as intended?

```
    if (unitsUsed >= 200) {
        totalCost = unitsUsed * 1.1;
    }
    if (unitsUsed >= 100) {
```

```
        totalCost = unitsUsed * 0.7;
    }
    if (unitsUsed > 0) {
        totalCost = unitsUsed * 0.5;
    }
```

```
    if (unitsUsed >= 200) {
        totalCost = unitsUsed * 1.1;
    }
    else if (unitsUsed >= 100) {
        totalCost = unitsUsed * 0.7;
    }
    else if (unitsUsed > 0) {
        totalCost = unitsUsed * 0.5;
    }
```

```
    if (unitsUsed > 0) {
        totalCost = unitsUsed * 0.5;
    }
    else if (unitsUsed >= 100) {
        totalCost = unitsUsed * 0.7;
    }
    else if (unitsUsed >= 200) {
        totalCost = unitsUsed * 1.1;
    }
```

16

Consider the following method.

```
public String wordPlay(String word)
{
    String str = "";
    for (int k = 0; k < word.length(); k++)
    {
        if (k % 3 == 0)
        {
            str = word.substring(k, k + 1) + str;
        }
    }
    return str;
}
```

The following code segment appears in another method in the same class as wordPlay.

```
System.out.println(wordPlay("AP Computer Science A"));
```

What is printed as a result of executing the code segment?

17

Consider the following code segment.

```
int x = 7;
if (x < 7)
{
    x = 2 * x;
}
else
{
    x = x - 3;
}
if (x % 3 == 1)
{
    x = x + 2;
}
System.out.print(3 * x);
```

What is printed as a result of executing the code segment?

18

Consider the following code segment.

```
if (false && true || true)
{
    if (false || true && false)
    {
        System.out.print("First");
    }
    else
    {
        System.out.print("Second");
    }
}
if (true || true && false)
{
    System.out.print("Third");
}
```

What is printed as a result of executing the code segment?

19

Consider the following code segment.

```
int count = 0;
for (int x = 1; x <= 4; x++)
{
    /* missing loop header */
    {
        count++;
    }
}
System.out.println(count);
```

Which of the following should be used to replace `/* missing loop header */` so that the code segment will print **10** as the value of count ?

- `for (int y = 0; y <= 3; y++)`
- `for (int y = 0; y < 4; y++)`
- `for (int y = 3; y >= 0; y--)`
- `for (int y = 4; y > 0; y--)`
- `for (int y = 0; y < x; y++)`

20

Consider the following code segment.

```
/* missing loop header */
{
    for (int k = 0; k < j; k++)
    {
        System.out.print(k);
    }
    System.out.println();
}
```

The code segment is intended to produce the following output.

```
0
01
012
0123
01234
```

Which of the following can be used to replace `/* missing loop header */` so that the code segment works as intended?

- `for (int j = 0; j < 5; j++)`
- `for (int j = 1; j < 5; j++)`
- `for (int j = 1; j <= 5; j++)`