Primitive Types – MCQ Part A

This quiz has 15 questions.

1. Consider the following code segment.

```
System.out.println("W");
System.out.println("X");
System.out.print("Y");
System.out.print("Z");
```

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

Ⓐ
```
WXYZ
```

Ⓑ
```
W
XYZ
```

Ⓒ
```
WX
YZ
```

Ⓓ
```
W
X
YZ
```

Ⓔ
```
W
X
Y
Z
```

2. Consider the following code segment.

```
System.out.print("cat ");
System.out.println("dog ");
System.out.println("horse ");
System.out.print("cow ");
```

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

Ⓐ
```
cat dog horse cow
```

Ⓑ
```
cat dog
horse
cow
```

Ⓒ
```
cat dog
horse cow
```

Ⓓ
```
cat
dog
horse cow
```

Ⓔ
```
cat
dog
horse
cow
```

3. Consider the following code segment.

```
System.out.print("Hello!");
System.out.println("How ");
System.out.print("are ");
System.out.print("you?");
```

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

Ⓐ
```
Hello!Howareyou?
```

Ⓑ
```
Hello!How are you?
```

Ⓒ
```
Hello!
How are you?
```

Ⓓ
```
Hello!How
are you?
```

Ⓔ
```
Hello!
How
are
you?
```

4. Consider the following code segment.

```
System.out.println(hello); //Line 1
System.out.print(world); //Line 2
```

The code segment is intended to produce the following output, but does not work as intended.

```
hello
world
```

Which of the following changes can be made so that the code segment produces the intended output?

Ⓐ Inserting `System.out.print();` between lines 1 and 2

Ⓑ Inserting `System.out.println();` between lines 1 and 2

Ⓒ Changing `println` in line 1 to `print`

Ⓓ Changing `print` in line 2 to `println`

Ⓔ Enclosing `hello` in line 1 and `world` in line 2 in quotation marks

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5. Consider the following code segment.

```
System.out.print("Ready"); //Line 1
System.out.print("Set");   //Line 2
System.out.print("Go!");   //Line 3
```

The code segment is intended to produce the following output, but may not work as intended.

```
Ready
Set
Go!
```

Which change, if any, can be made so that the code segment produces the intended output?

Ⓐ Changing `print` to `println` in lines 1 and 2

Ⓑ Changing `print` to `println` in line 3

Ⓒ Interchange lines 1 and 3

Ⓓ Replacing all three lines with the line segment `System.out.println("Ready Set Go!");`

Ⓔ No change is needed; the code segment works correctly as is.

6. Each of the following code segments is intended to print the word `Hello`. Which of the following code segments works as intended?

I.
```
System.out.print("Hello");
```

II.
```
System.out.print(Hello);
```

III.
```
System.out.print(He);
System.out.print(llo);
```

Ⓐ I only

Ⓑ II only

Ⓒ III only

Ⓓ I and II

Ⓔ II and III

7. Which statement correctly declares a variable that can store a temperature rounded to the nearest tenth of a degree?

Ⓐ `boolean patientTemp;`

Ⓑ `double patientTemp;`

Ⓒ `int patientTemp;`

Ⓓ `patientTemp = 0;`

Ⓔ `patientTemp = 0.0;`

8. A teacher determined student percentages in a course as the points a student earns divided by the total points available in the grading period. Points are awarded only in whole number increments, but student percentages are to be stored as decimals.

The following code segment appears in a program used to compute student percentages. Points that a student earns are stored in `pointsEarned`, the total points available in the grading period are stored in `totalPoints`, and the student percentage is stored in `percentage`.

```
int pointsEarned;
/* missing code */
```

Which of the following is most appropriate to replace `/* missing code */` in the program?

Ⓐ
```
int totalPoints;
int percentage;
```

Ⓑ
```
double totalPoints;
int percentage;
```

Ⓒ
```
int totalPoints;
double percentage;
```

Ⓓ
```
int totalPoints;
boolean percentage;
```

Ⓔ
```
double totalPoints;
boolean percentage;
```

9. Consider the following code segment:

```
/* data type 1 */ x = 0.5;
/* data type 2 */ y = true;
```

Which of the following best describes the data types that should be used to replace `/* data type 1 */` and `/* data type 2 */` so that the code segment compiles without error?

Ⓐ The variable `x` should be declared as `int` and the variable `y` should be declared as `boolean`.

Ⓑ The variable `x` should be declared as `int` and the variable `y` should be declared as `int`.

Ⓒ The variable `x` should be declared as `double` and the variable `y` should be declared as `int`.

Ⓓ The variable `x` should be declared as `double` and the variable `y` should be declared as `boolean`.

Ⓔ The variable `x` should be declared as `boolean` and the variable `y` should be declared as `boolean`.

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10. Consider the following code segment:

```
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`

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11. The volume of a cylinder is equal to the 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` variable `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?

I.
```
double baseArea = pi * r * r;
double volume = baseArea * h;
```

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

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

Ⓐ I only

Ⓑ III only

Ⓒ I and III only

Ⓓ II and III only

Ⓔ I, II, and III

12. Consider the following code segment.

```
int x = 10;
int y = 20;
/* missing code*/
System.out.print(top / bottom);
```

Which of the following replacements for `/* missing code */` will cause an `ArithmeticException` to occur?

I.
```
int top = x – y;
int bottom = y – x;
```

II.
```
int top = 2 * x;
int bottom = y – top;
```

III.
```
int top = x + y;
int bottom = 2 * top;
```

Ⓐ I only

Ⓑ II only

Ⓒ III only

Ⓓ I and II

Ⓔ II, and III

---

13. Consider the following code segment.

```
int a = 1;
int b = 2;
int c = 3;
int d = 4;
double x = a + b * c % d;
```

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

Ⓐ `1.0`

Ⓑ `2.5`

Ⓒ `3.0`

Ⓓ `7.0`

Ⓔ `9.0`

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14. Which of the following arithmetic expressions evaluates to `1`?

I. `2 / 5 % 3`

II. `2 / (5 % 3)`

III. `2 / 5 + 1`

Ⓐ I only

Ⓑ II only

Ⓒ I and II only

Ⓓ II and III only

Ⓔ I, II, and III

---

15. 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?

Ⓐ `1`

Ⓑ `1.5`

Ⓒ `3`

Ⓓ `20`

Ⓔ `20.5`