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1. If `total = 50`, what is the new value of total after `total += 10`?

1 / 1 point

- ☒ 60
- ☐ 10
- ☐ 5010
- ☐ 40

Correct

That's correct. When you use the compound assignment operator `+=`, it adds the assignee's existing value to the value on the right and assigns the value back to the assignee. So, `total += 10` is the same as `total = total + 10` or `total = 50 + 10`, which is 60.

2. Select the correct output for the following code:

1 / 1 point

```

1 public class Main {
2     public static void main(String[] args) {
3         int num = 10;
4         boolean result = num == 10;
5         System.out.println(result);
6     }
7 }
```

- ☐ 10
- ☒ true
- ☐ false
- ☐ null

Correct

That's correct. The expression `num == 10` checks whether the value of num is equal to 10. Since num is indeed 10, the result is true.

3. Anwar is writing a program to manage user profiles. He needs to declare a boolean variable to indicate whether a user is a student. How would Anwar declare a boolean variable named `isStudent` and initialize it to `true`?

1 / 1 point

- ☐ `isStudent = true;`
- ☒ `boolean isStudent = true;`
- ☐ `boolean isStudent = "true";`
- ☐ `bool isStudent = true;`

Correct

That's correct. When you want to declare and initialize the boolean variable in a single line, then boolean `isStudent = true` is correct.

4. Andrea is working on a text processing application and needs to extract a specific part of a String. What method would she use to extract the substring "Dark" from the String `sentence = "The Dark Web"`?

1 / 1 point

- ☐ `sentence.sub(4, 8)`
- ☐ `sentence.subString(4, 8)`
- ☒ `sentence.substring(4, 8)`
- ☐ `sentence.slice(4, 8)`

Correct

That's correct. The String class has a method called `substring(int start, int end)`. The `substring()` method extracts characters from a String between two specified indices (positions) and returns the resulting substring.

5. Imagine you are writing a welcome message for a user in an application. Which code snippet would you use to combine the Strings `greeting = "Hello"` and `name = "Alice"` with a comma and a space in between?

1 / 1 point

- ☐ `greeting.concat(", ", name)`

- ☐ `greeting.concat(", " + name)`
- ☐ `greeting + name + ", "`
- ☒ `greeting + ", " + name`

✓ **Correct**

That's correct. The `+` operator concatenates greeting and name with `", "` in between, resulting in the output **"Hello, Alice"**. The other options either misuse the **concat** or incorrectly place the comma and space.

6. Tom is debugging his Java program and comes across a line of code that is causing an error. What is wrong with the following code snippet that Tom identifies?

1 / 1 point

```
int number = 10.5;
```

- ☐ The value should be enclosed in double quotes.
- ☐ There's nothing wrong; the code is correct.
- ☐ The variable name is incorrect.
- ☒ The variable type `int` cannot hold decimal values.

✓ **Correct**

That's correct. The `int` data type is used for whole numbers (integers) and cannot store decimal values.

7. Which data type is used to store whole numbers in Java?

1 / 1 point

- ☐ `float`
- ☒ `int`
- ☐ `double`
- ☐ `char`

✓ **Correct**

That's correct. `int` can store only whole numbers. If you want to store decimal numbers, use the `double` data type.

8. The logical **NOT** operator is denoted by _____ in Java.

1 / 1 point

- ☐ `-`
- ☒ `!`
- ☐ `not`
- ☐ `~`

✓ **Correct**

That's correct. `!` is the logical **NOT** operator. It inverts the boolean value: if the value is true, it becomes false, and if it is false, it becomes true.

9. Select the correct output for the following code:

1 / 1 point

```
1 public class Main {
2     public static void main(String[] args) {
3         int remainder = 9 % 4;
4         System.out.println(remainder);
5     }
6 }
```

- ☐ 4
- ☐ 3
- ☐ 2
- ☒ 1

✓ **Correct**

That's correct. `9 % 4` will result in 1. The modulo (or remainder) operator `%` returns the remainder after dividing the first number by the second number. In this case, 9 divided by 4 is 2, with a remainder of 1.

10. True or False: Java Strings are immutable, meaning methods like `toUpperCase()` return a new String rather than modifying the original.

1 / 1 point

- ☐ False

☐ False

☒ True



Correct

That's correct. Strings are immutable in Java, meaning their content cannot be changed once created. Any modification to a String, like the `toUpperCase()` method, will create a new String object.