Assignment

1. Does any method in the String class change the contents of the string?
2. Create a program to determine whether a character is alphanumeric?
3. Create a program to determine whether a character is in lowercase or uppercase?
4. Describe how to convert hexadecimal to decimal?
5. Evaluate the following method calls:
   - Math.pow(2,2)
   - Math.max(2, Math.min(3,4))
   - Math.round(2.5F)
   - Math.ceil(-9.49)
   - Math.floor(7.5)

Assignment

6. Describe and give example for each method of String
   – contains
   – concat
   – compareTo
   – format
   – charAt
   – replace
   – substing
   – trim
   – toCharArray
   – split
   – toLowerCase
   – toUpperCase

Assignment

7. Can different types of numeric values be used together in computation?

8. Assume that int a = 1 and double d = 1.0 and that each expression is independent. What are the results of the following expressions?
   - a = 46 % 9 + 4 * 4 – 2
   - a = 45 + 43 % 5 * (23 * 3 % 2)
   - a %= 3 / a + 3
   - d += 1.5 * 3 + (++a)

9. Are the following statements correct? If so, show the output.
   - System.out.println("25 / 4 is " + 25 / 4);
   - System.out.println("25 / 4.0 is " + 25 / 4.0);
   - System.out.println("3 * 2 / 4 is " + 3 * 2 / 4);
   - System.out.println("3.0 * 2 / 4 is " + 3.0 * 2 / 4);

10. Identify and fix the errors in the following code:

```java
public class Test{
    public static void main(String[] args){
        int i;
        int k = 100.0;
        int j = i + 1;

        System.out.println("j is " + j + " and k is " + k);
    }
}
```

11. Can the following conversions involving casting be allowed? If so, find the converted result.

```java
char c = 'A';
int i = (int) c;
```

```java
float f = 1000.34F;
int i = (int) f;
```

```java
double d = 1000.34;
int i = (int) d;
```

```java
int i = 97;
char c = (char) i;
```

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Assignment

12. Assuming that x is 1, show the result of the following Boolean expressions.
    - (true) && (3 > 4)
    - !(x > 0) && (x > 0)
    - (x != 1) == !(x == 1)
    - (x >= 0) || (x < 0)

13. List the precedence order of the Boolean operators. Evaluate the following expressions:
    - 2 * 2 – 3 > 2 && 4 – 2 > 5
    - 2 * 2 – 3 > 2 || 4 – 2 > 5

Assignment

14. Assuming that x is 1, show the result of the following Boolean expressions.
    - (true) && (3 > 4)
    - !(x > 0) && (x > 0)
    - (x != 1) == !(x == 1)
    - (x >= 0) || (x < 0)

15. List the precedence order of the Boolean operators. Evaluate the following expressions:
    - 2 * 2 – 3 > 2 && 4 – 2 > 5
    - 2 * 2 – 3 > 2 || 4 – 2 > 5