

Frankfurt University of Applied Science

OOP/Java – WiSe 22/23 – Doina Logofătu

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### WEEK 4 – TASK 3 – QUIZZES

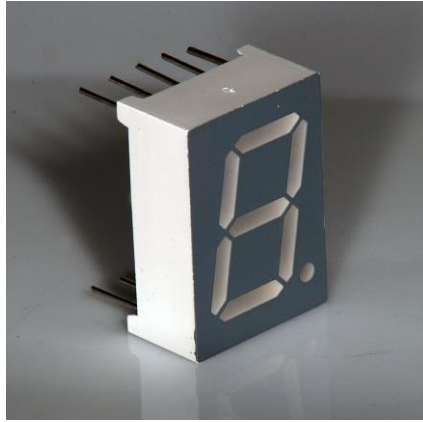
**Question 1:** Given the Java program below:

```
1 public class MyClass {  
2     public static void main(String args[]) {  
3         int num1 = 101;  
4         int num2 = 0b101;  
5         int num3 = 0x101;  
6         double num4 = 0e101;  
7  
8         System.out.println(num1);  
9         System.out.println(num2);  
10        System.out.println(num3);  
11        System.out.println(num4);  
12    }  
13 }
```

Which variable has the **lowest** value?

- A. num1
- B. num2
- C. num3
- D. **num4**

**Question 2:** Using the same program as Question 1, the highest variable (in terms of value) has its value **closest** to which number below?



Seven-segment LED display ([https://commons.wikimedia.org/wiki/File:Seven\\_segment\\_01\\_Pengo.jpg](https://commons.wikimedia.org/wiki/File:Seven_segment_01_Pengo.jpg))

- A. Number of bits in a byte
- B. Number of seven-segment display's lighting states
- C. **Number of days in a year**
- D. Number of seconds in an hour

**Explanation:**

**num1 = 101; num2 = 5 ( $101_2 = 5_{10}$ ); num3 = 257 ( $101_{16} = 257_{10}$ ); num4 = 0.0**

**In question 2, the value of:**

**Option A = 8; Option B = 128 ( $= 2^7$ ); Option C = 365 (or 366); Option D = 3600**

**Question 3:** Given the Java program below:

```
1  import java.math.BigDecimal;
2
3  public class MyClass {
4      public static void main(String args[]) {
5          System.out.println("0.1f == 0.1 is " + (0.1f == 0.1));
6          System.out.println("0.1f is actually " + new BigDecimal(0.1f));
7          System.out.println("0.1 is actually " + new BigDecimal(0.1));
8      }
9  }
```

Source: Peter Lawrey (<https://stackoverflow.com/a/9748566>)

What is the first line's output?

- A. True
- B. False
- C. `0.1f == 0.1` is true
- D. `0.1f == 0.1` is false**
- E. `0.1f == 0.1` is (`0.1f == 0.1`)
- F. Error

**Explanation:** The part “(`0.1f == 0.1`)” in the first line is a Boolean operation, which only returns true or false. Here, `0.1f` is the closest representation in “float” datatype, while `0.1` is the closest representation in “double” datatype. Since “float” has smaller size than “double” (4 bytes < 8 bytes), “float” is not as accurate and precise as “double”, which can be seen in the output below:

Result

CPU Time: 0.11 sec(s), Memory: 33452 kilobyte(s)

```
0.1f == 0.1 is false
0.1f is actually 0.100000001490116119384765625
0.1 is actually 0.1000000000000000055511151231257827021181583404541015625
```

**Question 4:** Which of the following is not a numeric wrapper class?

- A. short
- B. long
- C. bit**
- D. byte

**Question 5:** Given the Java program below:

```
1 public class Main{
2
3     public static void main(String args[]){
4         int value=257;
5         String s1=String.valueOf(value);
6         System.out.println(s1+10);
7     }
8 }
```

What is the output of this program?

- A. 10
- B. 257
- C. 267
- D. **25710**

**Explanation:** Since s1 is a string, its value is “257”, not the numeral value of 257. Therefore, the “+10” on Line 6 is a concatenating operation, not an arithmetic operation

**Question 6:** Given the Java program below:

```
1 public class Main{
2
3     public static void main(String args[]){
4         char ch1 = 'A';
5         char ch2 = 'a';
6         String s1 = String.valueOf(ch2);
7         Integer s2 = Integer.valueOf(ch1);
8         System.out.print(s1 + " ");
9         System.out.println(s2);
10    }
11 }
```

What is the output of the program?

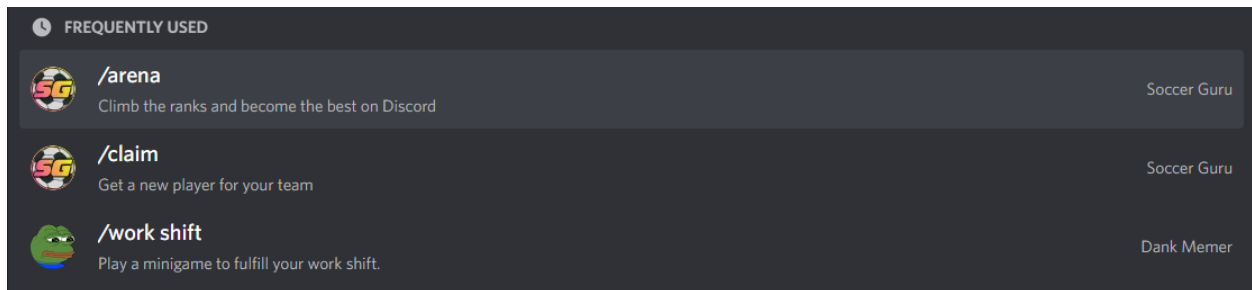
- A. A 65
- B. A 97
- C. **a 65**
- D. a 97

**Explanation:** If we convert a character variable into integer, the compiler will convert to the character's corresponding ASCII value. Since the ASCII value of 'A' is 65, and we want to print the value of ch2 (via s1), the correct output is "a 65"

**Question 7:** Which keyword is used to return the smaller value between two arguments?

- A. min
- B. max
- C. MIN\_VALUE
- D. MAX\_VALUE

**Question 8:** Of the methods below, what is the fastest and most convenient way to print the names of Discord bot commands (see below) in Java?



- A. Using escape sequence for '/'
- B. Using ASCII value for '/'
- C. Concatenating '/' character with command names
- D. Typing '/' and command names directly

**Explanation:** We do not need any escape sequence to print '/' (forward slash) in Java. However, if we want to print '\' (backslash), we need to use escape sequence, which is '\\'

**Question 9:** Of the methods below, what is the fastest and most convenient way to print this quotation (including quotation marks) from James Gosling: “Java is C++ without the guns, clubs, and knives”?

- A. **Using escape sequence for quotation mark**
- B. Using ASCII value for quotation marks
- C. Concatenating quotation marks with quote
- D. Typing quotation marks and quote directly

**Explanation:** We use the escape sequence ‘\’ ’ to print quotation marks