Java SE Fundamentals Interactive Quiz Questions

Lesson 2

Q2.1 Answer. A, B, C are correct.

Q2.2 Multiple choice. Identify the items that relate to the benefits of object-oriented programming. Choose all that apply.

- The source code of one object can be modified independently of the source code for another object. (correct)

- By using methods, objects hide the details of their internal implementation. (correct)

- You can reuse an existing object in your code. (correct)

- A problematic object can be replaced by another object without affecting the rest of the application. (correct)

- An object cannot be passed around within a system. (incorrect)

Q2.3 Drag and Drop. Identify the items that are included in the Java Development Kit (JDK) and drag them into the box labeled JDK.

- Java Runtime Environment (correct)

- Compiler (correct)

- Java Virtual Machine (correct)

- Microprocessor (incorrect)

Q.2.4 Type the correct syntax for compiling Student.java.

Answer javac Student.java

Lesson 3

Q3.1 Based on what you see in the directory display, what is the name of the package name in which Student .java resides?

Answer – test

Q3.2 True or False – Java is not case sensitive.

Answer – False

Q3.3 Multiple choice. Which of the following describes the main method? Choose all that apply.

    A. Required for every Java program.

    B. Requires { } for the method body.

    C. A class that contains a main method is called a "main class".

    D. Is declared as: `public static void main (String [] args)`

Answer – all are true

Lesson 4

Q4.1 Drag and drop the term on the right to match the description on the left.

Can be declared and initialized	variable
Combine two Strings	concatenate
Evaluates to true or false	boolean
Represents the kind of information or data held by a variable	type
The variable name	identifier
Positive or negative whole number	int
Positive or negative real numbers containing a decimal	double
Text data	String

Q4.2 Order of precedence. Rank the mathematical operations by precedence using the dropdown on the right of each answer to select the order.

- Operators within a pair of parentheses. (1)

- Increment and decrement operators (-- and ++). (2)

- Multiplication and division operators, evaluated from left to right. (3)

- Addition and subtraction operators, evaluated from left to right. (4)

Lesson 5

Q5.1 Multiple choice. Which of the following statements describes a boolean expression? Choose all that apply.

    A.   Must evaluate to true or false.

    B. Can contain relational operators.

    C. Can assign a boolean directly.

    D.   Does not contain values.

Answers: A, B, and C

Q5.2 Drag and drop the code snippets into the white spaces in the code sample to complete the code block.

Answers:

```
int[] grades = {80, 70, 90, 100, 75};
  for [        ] [  ] [            ]) {
    System.out.print([            ] +" ");
  }
```

Output:

```
[            ]
```

| grade |
| int grade | | 80 70 90 100 75 | | : |
| grades | | 70 75 80 90 100 | ORA | ; |

```
int[] grades = {80, 70, 90, 100, 75};
    for  int grade   :        grades    ){
        System.out.print(    grade    +" ");
                       }
```

```
Output:
80 70 90 100 75
```

70 75 80 90 100   ORA ;

Lesson 6

Q6.1 What will print when you run the following code?

```
1 Shirt myShirt = new Shirt();
2 Shirt yourShirt = new Shirt();
3
4 myShirt = yourShirt;
5
6 myShirt.colorCode = 'R';
7 yourShirt.colorCode = 'G';
8
9 System.out.println("Shirt color: " + myShirt.colorCode);
```

a. R
b. Shirt color: R}
c. Shirt color: G
d. Shirt color: is colorCode
e. G

<answer: c >

Q6.2 Drag and drop the term on the right to match the description on the left.

Can be physical or conceptual, have properties, and have behaviors	Object

A blueprint for object instances	Class
Color, size, name	Properties
A term used when you create an instance of an object	Instantiate
Keyword used to create an object instance	New

Q6.3 Which lines of code correctly instantiates a RainbowColor object and assigns it an object reference? Choose all that apply.

a. RainbowColor red new RainbowColor();

b. RainbowColor yellow;

   yellow = new RainbowColor();

c. RainbowColor blue = new RainbowColor();

d. RainbowColor green = RainbowColor();

<answers: b, c >

Q6.4 True/False

Stack and heap are two types of memory that Java uses.

<answer: True >

Lesson 7

Q7.1 Multiple choice. Why is it a best practice to not use the new keyword when creating a String object? Choose one answer.

    A. The new keyword is often overused in Java and using it could cause confusion.

    B. Using the new keyword creates a duplicate object in memory and is not a memory efficient coding practice.

    C. Using the new keyword will cause a compiler error.

    D. A String object cannot be created using the new keyword.

    Answer: B

Q7.2 True or False. Java allows only a single return from a method.

Answer: True

Q7.3 The Java API documentation, a library specification for the Java language, provides what type of information? Choose all that apply.

    A. Lists and describes all of the classes in the Java API

    B. Lists constructors, methods, and fields for a class

    C. Demonstrates syntax for implementing a method

    D. Lists parameters for methods

    E. Includes some use cases for implementing a class

       Answer: All are correct

Q7.4 Fill in the blank. You use the _____ keyword to make a variable a constant?

    A. final

Q7.5 Drag and Drop. Use the drop-down on the right to select the term that matches the definition on the left.

Explicitly changes the type of a variable to a type that supports a smaller size value	Type casting
Implicitly changes the type of a variable to a type that supports a larger size value	promotion
Objects, fields, and methods are stored here	Heap memory
Local variables are stored here	Stack memory
A primitive type used to store numbers with values to the right of the decimal point	float

Lesson 8

Q8.1 Fill in the blank. Use the _____ keyword with dot notation to access a field or method of the current object.

Answer. this

Q8.2 Drag and Drop

A value passed into a method when it is invoked	argument
A variable defined in a method declaration	Method parameter
Determines a variable's accessibility and how long it persists	scope
Its purpose is to instantiate an object of the class and return a reference to the object	Constructor method
It is called by another method to perform some work.	Worker method
It calls another method to perform some work	Caller method
Combination of a method's name, return value, and the number, types, and order of its parameters	Method signature

Q8.3 Multiple choice. Which line of code in the FlannelShirt class is an example of the syntax for accessing the colorCode static variable of the RedShirt class?

A. RedShirt.colorCode;

B. RedShirt.colorCode();

C. colorCode;

D. Static colorCode;

Answer A

Lesson 9

Q9.1 Drag and Drop

It uses access control to hide fields	encapsulation
An access modifier that lets any class access or change the field's value	public
A type of access control that lets only methods within the class have access	private
Used to initialize fields in an object	constructor

Calling multiple constructors using the this keyword	Chaining constructors
Add arguments to a constructor	overload

Q 9.2 fields of a class should be private, and those that need to be accessed should have <u>public</u> methods for setting and getting their values. (fill in the blank)

Answer: public

Q9.3 What are the three arguments that you would set for this constructor?

  public **Shirt(------------) {**

    setColorCode(colorCode);

    setDescription(desc);

   setPrice(price);

  }

Answer: **char colorCode, String desc, double price**

Lesson 10

Q10.1 Which of the following statements about conditional operators is true? Choose all that apply.

a. A conditional operator can be used in conjunction with a relational operator.

b. You can use conditional operators to evaluate complex conditions as a whole.

c. `&&`, `||`, `?:`, and `!` are conditional operators.

d. Conditional operators represent the conditions AND, OR, NOT.

Answers: a, b, d are correct.

Q10.2 Which of the following statements about switch statements is true? Choose all that apply.

a. switch is a keyword that represents a switch statement.

b. The value of a switch statement expression can be only of type char, byte, short, int, or String.

c. The case keyword indicates a value that you are testing. In combination with a literal value, it is referred to as a *case label*.

d. A switch statement does not require a break statement.

Answers: a, b, c, d are true.

Q10.3 Debuggers can be used to solve logic problems and runtime errors. True or false
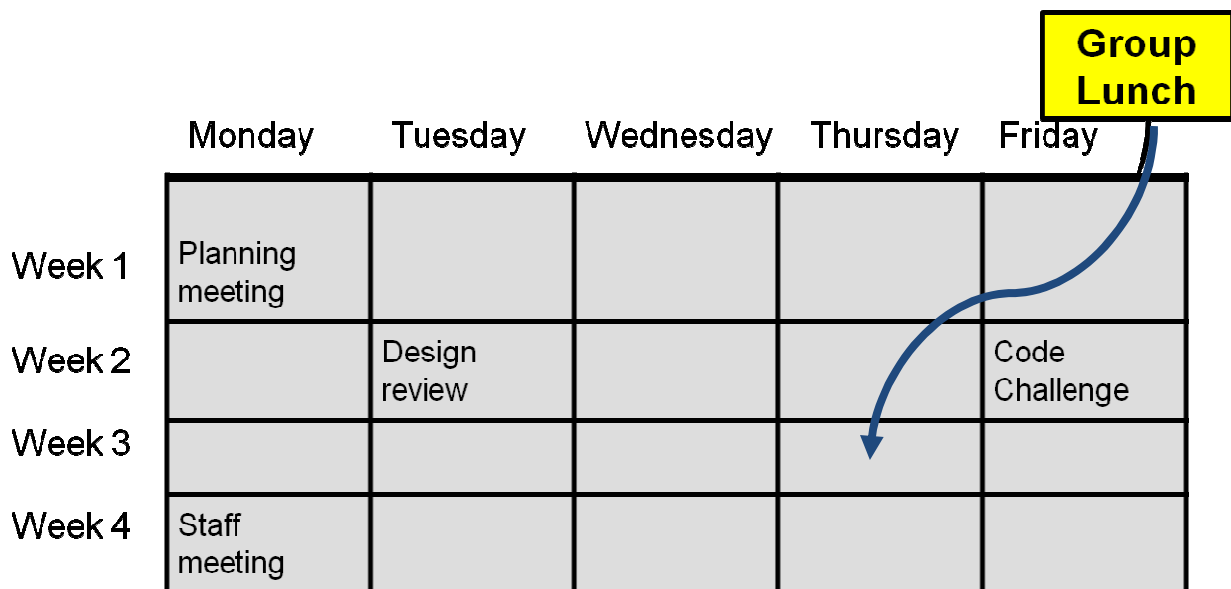
Answer true.

Lesson 11

Q11.1 Hot Spot selection. Duke is planning his month, and he needs to add an item to his schedule. Drag the item into the cell of his calendar based on the code example.

String[][] schedule = new String[5][4];

schedule[3][2] = "Group Lunch"

Q11.2 Drag and Drop.

Use to iterate through a block of statements one or more times.	Do/while
Used to iterate through a block of statements and to perform the statements zero or more times.	while
Used to step through statements a set number of times	for
Is similar to a spreadsheet	Two-dimensional array

A keyword that causes a loop to exit	break
A keyword that causes the loop to skip the current iteration and go to the next	continue
Used to sort or manipulate large amounts of data	Nested loop

Q 11.3 Which of the following statements describes an ArrayList? Choose all that apply.

A. It is part of the java.util package

B. It can store objects and primitives

C. It has a set of methods for managing its elements

D. It is one of several List classes

Answer: A, C, D

Lesson 12

Q12.1 In the following code sample, which keyword is missing from Line 01 that can be used to implement an inheritance from the Clothing class.

Answer: extends

```
01 public class Shirt _____ Clothing {
03    private char fit = 'U';
04
05    public Shirt(int itemID, String description, char
06            colorCode, double price, char fit) {
07        super (itemID, description, colorCode, price);
08
09        this.fit = fit;
10    }
12    public char getFit() {
13        return fit;
14    }
15    public void setFit(char fit) {
16        this.fit = fit;
17    }
```

Q12.2. In terms of inheritance, _____ is a keyword that you use to invoke a method of a superclass.

Answer: super

Q12.3 Which of the following statements about an Abstract class are true? Choose all that apply.

    a.   An abstract class can be instantiated

    b.   Contains abstract methods that must be implemented by the subclass

    c.   Can contain concrete methods

    d.   Uses the abstract keyword

Answers: b, c, d are correct

Lesson 13

Q13.1 Drag and drop the description on the right to match the term on the left.

polymorphism	The same method is implemented differently by different classes.
instanceof	An operator used to ensure that there is no casting error
casting	Creating a reference to a more specific type in order to access a method
toString	A method that gives very basic information about the object
interface	A type that can be implemented by any class and can then be used as a reference type for that object
Object class	All classes have this at the very top of their hierarchy

Q13.2 In the following code examples, type the method that has to be implemented in Line 07 in order to prevent a compiler error.

```
01  public interface Returnable {
02    public String doReturn();
03 }
```

```
01   public class Shirt extends Clothing implements Returnable {
02     public Shirt(int itemID, String description, char colorCode,
03                  double price, char fit) {
04       super(itemID, description, colorCode, price);
05       this.fit = fit;
06   }
07   public String _____  {
08     // See notes below
09       return "Suit returns must be within 3 days";
10   }
11   ...< other methods not shown > ...        } // end of class
```

Answer: doReturn()

Q13.3 All objects have which method?

a.   toString()

b.   toDo()

c.   doReturn()

d.   getString()

answer a. toString()

Lesson 14

Q14.1 Using the dropdown next to each item, match the exception with the cause of the exception.

java.lang.ArrayIndexOutOfBoundsException	Attempt to access a non-existent array index
java.lang.ClassCastException	Attempt to cast on object to an illegal type
java.lang.NullPointerException	Attempt to use an object reference that has not been instantiated
java.lang.OutOfMemoryError	Exceptional conditions that are external to the application and that the application usually cannot anticipate or recover from

Q14.2 Match the type of exception that corresponds to the explanation of what caused the exception.

```
01 public static void createFile()  throws Exception  {
02  File testF = new File("c:/notWriteableDir");  (A)
03
04  File tempF = testF.createTempFile("te", null, testF);  (B)
05
06  System.out.println
07      ("Temp filename: "+tempF.getPath());
08    int myInt[ ] = new int[5];
09    myInt[5] = 25;  (C)
10 }
```

A Exception	c:\notWriteableDir is a directory, but it is not writeable.
B IllegalArgumentException	The first argument passed to createTempFile should be three or more characters long.
C java.lang.ArrayIndexOutOfBoundsException	Trying to access a nonexistent index of an array creates an exception.
< distracter answer>	Null cannot be passed as an argument to a method.

14.3 Match the definition on the right to the term on the left.

Error	Typically an unrecoverable external error Unchecked
RuntimeException	Typically caused by a programming mistake Unchecked
Exception	Recoverable error Checked (Must be caught or thrown)