Java SE Programming I Interactive Quiz Questions

Lesson 2

Q2.1 A Java bytecode (class) file can run on which of the following machines? Choose all that apply.

    A. Linux workstation with the Java runtime installed.

    B. Windows workstation with the Java runtime installed.

    C. Mac workstation with the Java runtime installed.

    D. Windows workstation with no Java runtime installed.

Answer: A, B, and C

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

    A. The source code of one object can be modified independently of the source code for another object.

    B. By using methods, objects hide the details of their internal implementation.

    C. You can reuse an existing object in your code.

    D. A problematic object can be replaced by another object without affecting the rest of the application.

    E. An object cannot be passed around within a system.

Answer: A, B, C, and D

Q2.3 Identify the items that are included in the Java Development Kit. Choose all that apply.

    A. Java Runtime Environment

    B. Compiler

    C. Java Virtual Machine

    D. Microprocessor

Answer: A, B, and C

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

1. Operators within a pair of parentheses.

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

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

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

Answer: Order as shown

Q4.2 Match the term on the right to 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`

Lesson 5

Q5.1 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.

Answer: A, B, and C

Q5.2 Fill in the blanks in the code sample to complete the code block and display the output.

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

Output: _____

Answers: int grade, :, grades, grade, 80 70 90 100 75

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 Match the term on the right to 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();
```

Answer: B, C

Q6.4 <True or False> Stack and heap are two types of memory that Java uses.

Answer: True

Lesson 7

Q7.1 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 Complete the sentence below by filling in the blank.

You use the _____ keyword to make a variable a constant.

Answer: final

Q7.5 Match the term on the right to the description 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 Complete the sentence below by filling in the blank.
Use the _____ keyword with dot notation to access a field or method of the current object.

Answer: this

Q8.2 Match the term on the right to the description on the left.

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

Q8.3 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 Match the term on the right to the description on the left.

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 Complete the sentence below by filling in the blank.

Fields of a class should be `private`, and those that need to be accessed should have ---------
methods for setting and getting their values.

Answer: public

Q9.3 Type 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.

Answer: 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.

Answer: All are true

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

Answer: True.

Lesson 11

Q11.1 Duke is planning his month, and he needs to add an item to his schedule. Based on the code example, where should the group lunch be placed?

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

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


	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	Planning meeting				
Week 2		Design review			Code Challenge
Week 3					
Week 4	Staff meeting				

    A. Wednesday Week 4

    B. Thursday Week 3

    C. Wednesday Week 2

    D. Tuesday Week 2

Answer: B

Q11.2 Match the term on the right to the description on the left.

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, fill in the missing keyword in line 01 that can be used to implement an inheritance from the `Clothing` class.

```
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     }
```

Answer: extends

Q12.2. Complete the sentence below by filling in the blank.

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, and D

Lesson 13

Q13.1 Match the description on the right to 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, what method has to be implemented in line 06 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

Lesson 14

Q14.1 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 Refer to the code sample and 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.ArrayIndexOutOfBounds Exception	Trying to access a nonexistent index of an array

creates an exception. |

14.3 Select the term that matches the definition.

Typically an unrecoverable external error; unchecked: _____

Typically caused by a programming mistake; unchecked: _____

Recoverable error; Checked (Must be caught or thrown): _____

Answers: Error, RuntimeException, Exception