Big Java Chapter 3 Test

Due Oct 1 at 11:59pm **Points** 49 **Questions** 49 **Available** Sep 29 at 12:45pm - Oct 1 at 11:59pm 2 days **Time Limit** 120 Minutes
Allowed Attempts 3

Instructions

This quiz is designed to accompany the reading of the text and is therefore open text, browser, neighbor etc. You have three attempts; the best grade will automatically be recorded (no reason to NOT receive a perfect score) and trends for incorrect answers will provide substance for discussion as chapter is finalized.

Take the Quiz Again

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	28 minutes	33 out of 49

Correct answers are hidden.

Score for this attempt: **33** out of 49
Submitted Sep 29 at 1:20pm
This attempt took 28 minutes.

Question 1

1 / 1 pts

What does an object store its data in?

- files
- methods
- instance variables
- access specifiers

Incorrect

Question 2

0 / 1 pts

Each object of a class has its own set of ___.

- methods
- instance variables
- constructors
- classes

Question 3

1 / 1 pts

You should declare all instance variables as ___.

- protected

- class
- public
- private

Question 4 1 / 1 pts

Private instance variables ___.

- can only be accessed by methods of a different class
- can only be accessed by methods of the same class
- cannot be accessed by methods of the same class
- can only be accessed by the constructor of the class

Question 5 1 / 1 pts

What is the name of the instance variable for a `BankAccount` object?

- `makeDeeposit`
- `makeWithdrawl`
- `getBalance`
- `balance`

Question 6 1 / 1 pts

The black boxes from which a program is manufactured are called ___.

- objects
- access specifiers
- methods
- instance variables

Question 7 1 / 1 pts

What contains the instructions to initialize the instance variables of an object?

- constructor
- access specifier

- initializer
- type name

Incorrect

Question 8 0 / 1 pts

What is the return type of the `println` method of the `PrintStream` class?

- `void`
- `public`
- `String`
- `double`

Question 9 1 / 1 pts

What is the return type of a constructor?

- `void`
- A constructor does not have a return type.
- `private`
- `public`

Question 10 1 / 1 pts

The name of the constructor is always the same as the name of the __.

- access specifier
- class
- instance variable
- parameter variable

Incorrect

Question 11 0 / 1 pts

Consider the following method comment and method header:

```
/**
Converts from a source measurement to a target measurement.
@param fromMeasurement the measurement
__________ the input value converted to the target unit
*/
public double convertTo(double fromMeasurement) { . . . }
```

Fill in the blank.

- `return double`
- `return` ✓
- `@return double`
- `@return`

Question 12 1 / 1 pts

Which of the following corresponds to a valid constructor header for the `Player` class?

- `public Player()` ✓
- `private Player`
- `public void Player()`
- `private void Player()`

Incorrect

Question 13 0 / 1 pts

Which of the following statements is true about constructors?

- Providing a constructor for a class is optional.
- You can only provide one constructor for a class.
- The body of the constructor must initialize all instance variables or the constructor will not successfully compile. ✓
- A constructor has a `void` return type.

Incorrect

Question 14 0 / 1 pts

Consider the following code to declare a constructor for the `Player` class:

```
public void Player(String playerName)
{
   name = playerName;
}
```

Which statement is true?

- The code compiles successfully and results in the instantiation of a `Player` object when called.
- The code compiles successfully but results in a compiler error in the code that calls the constructor.
- The code does not compile.
- The code compiles successfully but results in a run-time error in the code that calls the constructor. ✓

Question 15 1 / 1 pts

What are the operations that any programmer can use to create and manipulate objects of the class called?

- public implementation
- public interface
- private implementation
- private interface

Question 16 1 / 1 pts

We want to change the `BankAccount` class so that all accounts will have a monthly fee. When a `BankAccount` is created, its monthly fee is set and cannot be changed. The instance variable `monthlyFee` will hold the monthly fee. Which of the following methods deducts the value of the monthly fee from the account?

```
public void chargeFee()
{
   balance = balance – monthlyFee;
}
```

```
public void chargeFee()
{
   initialBalance = initialBalance - monthlyFee;
}
```

```
public void chargeFee()
{
   balance = monthlyFee;
}
```

```
public void chargeFee()
{
   balance - monthlyFee;
}
```

Incorrect

Question 17 0 / 1 pts

We want to create a class that represents a geometric sequence. A geometric sequence is a sequence of numbers that begin at some value and then multiplies each value by some constant to get the next value. For example, the geometric sequence 1, 2, 4, 8, 16 starts at 1 and multiplies each term by 2 to get the next. The geometric sequence 10.8, 5.4, 2.7, 1.35 starts at 10.8 and multiplies each term by 0.5 to get the next. The basic framework of a geometric sequence class is below:

```
public class GeometricSequence
{
   private double initialValue;
   private double multiplier;
}
```

We want to produce elements of the geometric sequence using codeSystem.out.println (first.next());// Prints 1 and advances

```
System.out.println (first.next()); //  Prints 2 and advances
```

```
System.out.println (first.next()); //  Prints 4 and advances
System.out.println (first.next()); //  Prints 8 and advances

System.out.println (second.next());  //Prints 10.8 and advances
System.out.println (second.next());  //Prints 5.4 and advances
System.out.println (second.next());  //Prints 2.7 and advances
```

What should the body of the `next` method be?

```
double result = initialValue;
initialValue = initialValue * multiplier;
return result;
```

```
return initialValue;
initialValue = initialValue * multiplier;
```

```
double result = initialValue;
multiplier = initialValue * multiplier;
return result;
```

```
initialValue = initialValue * multiplier;
return initialValue;
```

Question 18 1 / 1 pts

Documentation ___ can be used to describe the classes and public methods of programs.

- components
- comments
- constants
- commands

Incorrect

Question 19 0 / 1 pts

If a method has two parameters, one explicit and one implicit, and a return type of void, then the documentation comments should include:

- One @param statement, and one @return statement
- Two @param statements, and one @return statement
- One @param statement, and no @return statement
- Two @param statements, and no @return statement

Question 20 1 / 1 pts

When you declare a method, you also need to provide the method ____, which consists of statements that are executed when the method is called.

- (•) body
- ( ) header
- ( ) return type
- ( ) access specifier

Question 21

1 / 1 pts

Which line of code is part of the public implementation of the `BankAccount` class?

- ( ) `balance = balance + amount;`
- ( ) `balance = balance - amount;`
- (•) `public BankAccount(double initialBalance)`
- ( ) `return balance;`

Question 22

1 / 1 pts

Given this method comment, fill in the blank in the method implementation.

```
/**
   Deposits money into the bank account
   @param amount the amount to deposit
*/
public _____  deposit(double amount)
{
   balance = balance + amount;
}
```

- ( ) `double`
- (•) `void`
- ( ) `return`
- ( ) `null`

Question 23

1 / 1 pts

Given this method implementation, fill in the blank in the method comment.

```
/**
   Gets the current balance of the bank account
   _________ the current balance
*/
public double getBalance()
{
```

```
   return balance;
}
```

- `return`
- `double`
- `@return`
- `balance`

Question 24

1 / 1 pts

Consider the following method header for an `Employee` class:

```
public void raiseSalary(double percentRaise)
{
   ________________________________________
}
```

Fill in the blank in the method body:

- `salary = salary * (1 + percentRaise);`
- `salary = salary * percentRaise;`
- `salary = salary * raise;`
- `salary = salary * (1 + raise);`

Question 25

1 / 1 pts

Fill in the blank in the comment for this method header.

```
/**
   Constructs a player with the given name
   _________________________________
*/
public Player(String playerName)
 . . .
```

- `@return the player`
- `@parameter playerName the name of the player`
- `@param playerName the name of the player`
- `return the player`

Question 26

1 / 1 pts

What verifies that a class works correctly in isolation, outside a complete program?

- (•) unit test
- ( ) encapsulation
- ( ) abstraction
- ( ) enumeration

Question 27 1 / 1 pts

What is a tester class?

- ( ) A class that constructs objects.
- ( ) A class that invokes one or more methods.
- ( ) A class that is named Tester.
- (•) A class with a main method that contains statements to run methods of another class.

Question 28 1 / 1 pts

What is a local variable?

- ( ) A variable that is declared in the header of a class.
- ( ) A variable that is declared in the body of the class.
- ( ) A variable that is declared in the header of a method.
- (•) A variable that is declared in the body of a method.

Incorrect

Question 29 0 / 1 pts

What is a parameter variable?

- ( ) A variable that is declared in the header of a method.
- ( ) A variable that is declared in the body of the class.
- ( ) A variable that is declared in the body of a method.
- (•) A variable that is declared in the header of a class.

Question 30 1 / 1 pts

When a method exits, its ____ are removed.

- (•) local variables

- classes
- comments
- instance variables

Incorrect

Question 31 0 / 1 pts

What do instance variables belong to?

- an object
- a class
- a method
- a package

Question 32 1 / 1 pts

What is the name of the parameter variable of the `recordPurchase` method of the `CashRegister` class?

- `amount`
- `payment`
- `purchase`
- `change`

Incorrect

Question 33 0 / 1 pts

Which of the following is an instance variable of the `CashRegister` class?

- `amount`
- `balance`
- `change`
- `purchase`

Question 34 1 / 1 pts

When are local variables initialized?

- Local variables are initialized with a default value before a constructor is invoked.
- Local variables are initialized when the method is called.

- You must initialize local variables in a method body.
- You must initialize local variables in the constructor.

Question 35 1 / 1 pts

Assuming the following code is the body of the `deposit` method, what output is generated by the valid call `myAccount.deposit(1000)` for an account with an initial balance of 500?

```
public void deposit(double amount)
{
   System.out.println(amount);
   double newBalance = balance + amount;
   balance = newBalance;
}
```

- `1500.0`
- The code fragment has a syntax error and does not compile.
- The code fragment does not compile because the parameter variable is not initialized.
- `1000.0`

Incorrect

Question 36 0 / 1 pts

Instance variables that are numbers are initialized to what default value?

- Instance variables are not initialized to a default value.
- `nil`
- `0`
- `null`

Incorrect

Question 37 0 / 1 pts

A method is invoked on what type of parameter?

- public parameter
- explicit parameter
- private parameter
- implicit parameter

Question 38 1 / 1 pts

Identify the explicit parameter of the `withdraw` method of the `BankAccount` class.

- `public`
- `double`
- `balance`
- `amount`

Incorrect

Question 39 0 / 1 pts

Consider the following invocation of the `deposit` method:

```
mySavings.deposit(250);
```

What is the explicit parameter?

- There is no explicit parameter.
- `deposit`
- `250`
- `mySavings`

Question 40 1 / 1 pts

Which statement is true about the following constructor of the `BankAccount` class?

```
public BankAccount(double balance)
{
   this.balance = balance;
}
```

- The code has a syntax error.
- The code has a logic error.
- You can't have an instance variable and a parameter variable with the same name.
- The code sets the instance variable `balance` to the parameter variable `balance`.

Incorrect

Question 41 0 / 1 pts

When drawing complex shapes, provide a(n) ____ to set the position of the shape.

- constructor
- viewer
- component

frame

Incorrect

Question 42

0 / 1 pts

Consider the following code fragment from the Italian Flag program in How To 3.2:

```
public class ItalianFlagComponent
{
   public void paintComponent(Graphics g)
   {
      Graphics2D g2 = (Graphics2d) g;
      ItalianFlag flag = new ItalianFlag(100, 100, 90);
      flag.draw(g2);
   }
}
```

Which of the following statements is true?

- It is impossible to construct an `ItalianFlagComponent` because no constructor is implemented.
- It is impossible to add an `ItalianFlagComponent` object to a frame because the class does not extend JComponent.
- The code will not compile because it should have called `g2.draw(flag);`
- The code has a syntax error and will not compile.

Question 43

1 / 1 pts

Which of the following corresponds to the `getArea` method body for a `Square` class where the instance variable is named `sideLength`?

- `return sideLength;`
- `return area;`
- `return width * height;`
- `return sideLength * sideLength;`

Question 44

1 / 1 pts

Fill in the first line of this `SquareTester` program so that it declares and initializes a variable `mySquare` as an instance of a `Square` class with a side length of 6.

```
public class SquareTester
{
   public static void main(String[] args)
   {
      /*
         Step 1: declare and initialize a variable mySquare as an
         instance of a Square class with a side length of 6
      */
      ____________________________________
      /*
         Step 2: print out the area of the object referenced by the
         variable mySquare using the getArea method
```

```
      */
      /*
         Step 3: print the expected outcome
      */
   }
}
```

- `Square mySquare = new Square(6);`
- `mySquare = new Square(6);`
- `mySquare = Square(6);`
- `Square mySquare = Square(6);`

Question 45

1 / 1 pts

If the `CarComponent` class had the call below added to it, where will `car3` be placed?

```
int y3 = (getHeight() - 30)/2;
Car car3 = new Car(0, y3);
car3.draw(g2);
```

- At the middle of the right side of the window
- At the middle of the left side of the window
- At the middle of the top of the window
- At the middle of the bottom of the window

Incorrect

Question 46

0 / 1 pts

What will be output from the following statements that use `BankAccount` class?

```
BankAccount first = new BankAccount (100);
BankAccount second = new BankAccount (100);
BankAccount third = first;
first.deposit (50.0);
second.deposit (50.0);
third.deposit (50.0);
System.out.println (first.getBalance() + " " + second.getBalance() + third.getBalance());
```

- `150.0 200.0 250.0`
- `150.0 150.0 150.0`
- `250.0 250.0 250.0`
- `200.0 150.0 200.0`

Question 47

1 / 1 pts

Assume the method below has been added to the `BankAccount` class.

```
public void giveBonus ()
{
   balance = balance + 5.0;
}
```

What will be output from the following statements that use the revised BankAccount class?

```
BankAccount premiumAccount = new BankAccount (100);
premiumAccount.giveBonus ();
premiumAccount.giveBonus ();
premiumAccount.giveBonus ();
System.out.println (premiumAccount.getBalance());
```

- `110.0`
- `100.0`
- `105.0`
- `115.0`

Question 48

1 / 1 pts

We want to create a class that represents a date. A date has a day, month, and year. For example, the date March 16, 2014 has the day 16, month 3, and year 2014. The basic framework of a date class is below:

```
public class Date
{
   private int day;
   private int month;
   private int year;
}
```

We want to create a specific date using code like:

```
Date first = new Date (16, 3, 2014);
//  Creates March 16, 2014

Date second = new Date (1, 9, 2013);
//  Creates September 1, 2013
```

Which of the constructor specifications below will allow this code to behave as desired?

- `public void Date (int d, int m, int y)`
- `public init (int d, int m, int y)`
- `public Date (int d, int m, int y)`
- `public Date Date (int d, int m, int y)`

Question 49

1 / 1 pts

We want the `toString` method to return strings like 3/16/2014. Give the body of the `toString` method.

- `return "m/d/y";`
- `return month + "/" + day + "/" + year;`

```
return m + "/" + d + "/" + y;
```

```
return "month/day/year";
```

Quiz Score: **33** out of 49