### **Java Midterm Part A**

<b>Due</b> No due date	Points 610	Questions 74	Time Limit 30 Minutes	
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### Instructions

Exam Instructions: TIME LIMITED, AUTO-SUBMIT, AUTO-GRADING YOUR VIDEO MUST BE ON

READ CAREFULLY AND ANSWER EACH QUESTION ONE AT A TIME!

Read each question carefully and select the best choice or choices which answer that question. Answer all questions within the time allotted.

Some questions have more than one correct answer. There is no credit for a partially answered question.

You may use your Eclipse IDE (or other instructor approved IDE).

You may not use any other materials UNLESS OTHERWISE INSTRUCTED BY THE INSTRUCTOR OR T.A.

You may NOT have any discussions with anyone except the instructor or T.A..

Taking this exam outside of these parameters will result in disqualification and a grade of zero.

Answer all questions.

EXAM WILL AUTO SUBMIT AFTER ALLOTTED TIME EXPIRES.

### **Attempt History**

	Attempt	Time	Score
LATEST	Attempt 1	30 minutes	589.17 out of 610

Score for this quiz: 589.17 out of 610

Submitted Nov 1, 2021 at 2:44pm

This attempt took 30 minutes.

Question 1	20 / 20 pts
/**  *  * CAREFULLY EXAMINE the code fragment giver CORRECT Object Oriented Design,	n below for

### then Fill IN THE BLANK with EITHER:

the LINE NUMBER of the java statement which needs to be corrected

OR the words:

```
NO ERRORS:
```

```
List < Item > list = new ArrayList<>(
1
             Arrays.asList(
2
                 new Electronics(1,"Sharp HDTV",999.99),
3
                new Electronics(2,"HP Laptop",399.99),
4
                new Electronics(3,"Apple iPad mini", 499.99)
5
6
        ));
7
        System.out.println(list.size() + " Electronic items in list.");
        for (Electronics e : list) {
8
           System.out.print(e +" ");
9
10
11
         System.out.println();
```

### Correct!

8

### orrect Answers

8

That is correct!

Question 2 10 / 10 pts

FILL IN THE BLANK with the LINE NUMBER of the INCORRECT (Compiler Error) line of java code:

1. List<String> names1 = new ArrayList<>();

### 10 / 10 pts **Question 3** Select the answer which best describes the following three lines of java code: 1. List numbers1 = new ArrayList<>(); 2. List numbers2 = new ArrayList(); ArrayList numbers3 = new ArrayList(); Java statement 3 is correct. Java statement 2 is correct. Correct! None of the three Java statements are correct. Java statement 1 is correct. All three Java statements are correct. Yes, that is correct!

Question 4 10 / 10 pts

When instantiating a HashMap class for an associative container,
BEST PRACTICE is to define the variable as type \_\_\_\_\_.

Correct!

Map

java.util.Map

Map<>
Map

Yes, that is correct!

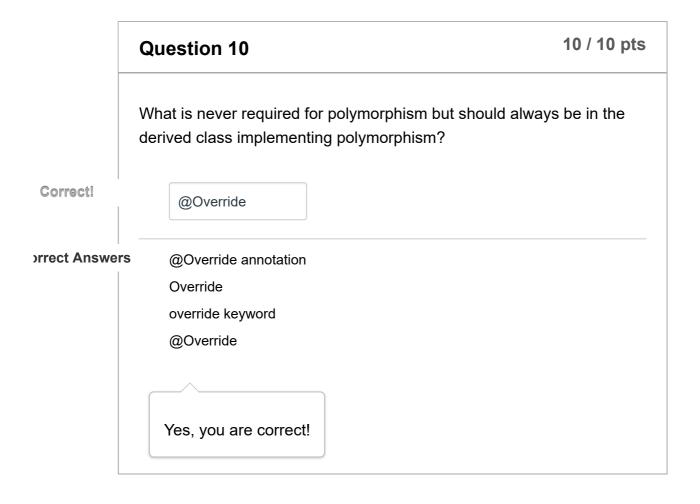
### Question 5 When instantiating an ArrayList class for a sequential container, BEST PRACTICE is to define the variable as type \_\_\_\_\_. Correct! List List List yes, that is correct! Yes, that is correct!

Question 6 5 / 5 pts

A Java interface specifies one or more methods and instance variables to be used in your class.

2/1/22, 12:18 PM	Java Midterm Part A: CSYE6200 14357 Concpts of Object-Oriented Des SEC 03 Fall 2021 [BOS-2-TR]		
	O True		
Correct!	False		
	Yes, that is correct!		
		6 67 / 10 pts	
	Question 7	6.67 / 10 pts	
	In Java, you accomplish abstraction (i.e. data an hide design details) by use of:	d functionality hiding to	
	none of these are correct.		
Correct!	Abstract class		
orrect Answer	Factory Design Pattern		
Correct!	✓ API		
	Question 8	6.67 / 10 pts	
	In Java, you accomplish abstraction (i.e. data an hide design details) by use of:	d functionality hiding to	
Correct!	✓ Interface		
Correct!	✓ Superclass		
	none of these are correct.		
orrect Answer	Factory Design Pattern		

### | Correct | Vector |



Question 11 10 / 10 pts

2/1/22, 12:18 PM		Java Midterm Part A:	CSYE6200 14357 Concpts	of Object-Oriented Des SEC 03 Fall 2021 [BOS
	If m	y class needs to exe	ecute code on an ac	lditional thread, I would use
	the	Runnable	Interface	
	Ans	wer 1:		
Correct!		Runnable		
orrect Answer		interface		
	Ans	wer 2:		
Correct!		interface		
orrect Answer		Runnable		
	•	Yes, that is correct!		

	Question 12	10 / 10 pts
	What is another name for class method?	
Correct!	operation	
Correct!	function	
	charateristic	
	script	
	That is correct!	

6.67 / 10 pts **Question 13** 

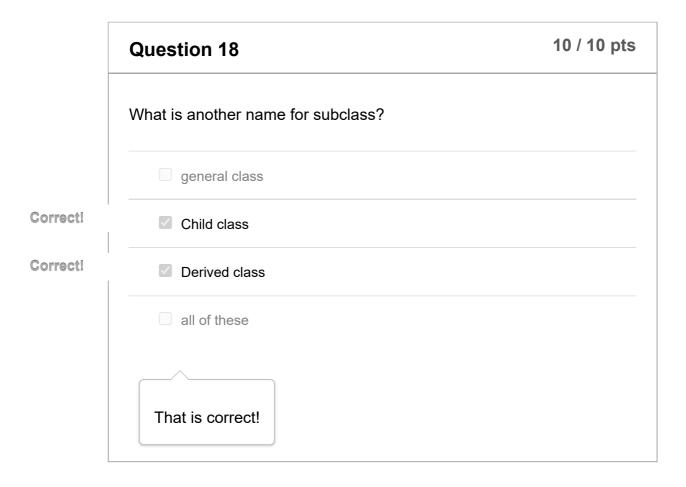
	In Java, you accomplish abstraction (i.e. data and funded hide design details) by use of:	inctionality hiding to
Correct!	Abstract class	
rect Answer	private helper member functions	
	none of these answers are correct.	
Correct!	Interface	
	Question 14	10 / 10 pts
	What comprises the API of a class?	
	All methods in class.	
Correct!	None of these answers are correct.	
	All static methods in class.	
	All data in class	
	Yes, that is correct!	
	Question 15	10 / 10 pts
	What another name used for class data?	
	all of these	
Correct!	✓ Field	

Java Midterm Part A: CSYE6200 14357 Concpts of Object-Oriented Des SEC 03 Fall 2021 [BOS-2-TR]

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2/1/22, 12:18 PM	Java Midterm Part A: CSYE6200 14357 Concpts	of Object-Oriented Des SEC 03 Fall 2021 [BOS-2-TR]
	text	
	form	
Correct!	Attribute	
	That is correct!	
	Question 16	10 / 10 pts
	In UML, another term for Inheritance is	
Correct!	Generalization	
orrect Answer	Generalization	
	Yes, that is correct!	
	Question 17	10 / 10 pts
	What is another name for Superclass?	
	all of these.	
Correct!	Parent class	
Correct!	Base class	
	General class	

That is correct!

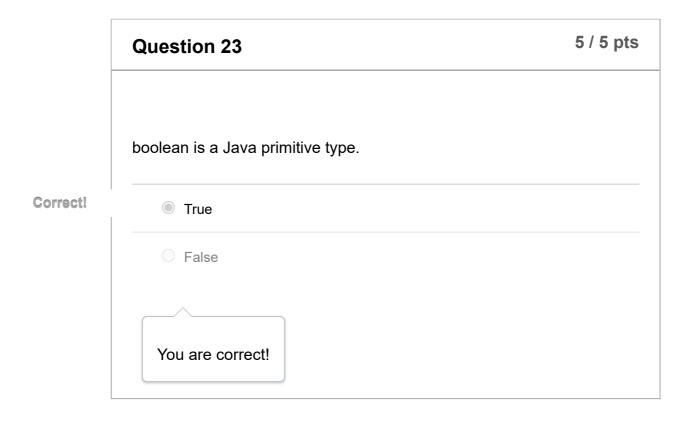


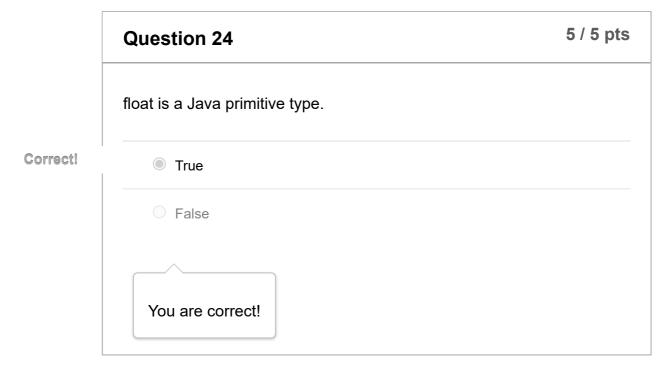
	Question 19	5 / 5 pts
	field is a Java primitive type.	
	O True	
Correct!	False	
	You are correct!	

	Question 20	5 / 5 pts
	int is a Java primitive type.	
Correct!	True	
	○ False	
	You are correct!	
	Tod die Goriect:	

	Question 21	5 / 5 pts
	String is a Java primitive type.	
	True	
Correct!	False	
	You are correct!	

	Question 22	5 / 5 pts
	byte is a Java primitive type.	
Correct!	True	
	○ False	





Question 25 5 / 5 pts

	double is a Java primitive type.
Correct!	True
	False
	You are correct!

	Question 26	5 / 5 pts
	Integer is a Java primitive type.	
	O True	
Correct!	False	
	You are correct!	

	Question 27	5 / 5 pts
	long is a Java primitive type.	
Correct!	True	
	○ False	

	Question 28	5 / 5 pts
Correct!	bit is a Java primitive type.	
	O True	
	False	
	You are correct!	

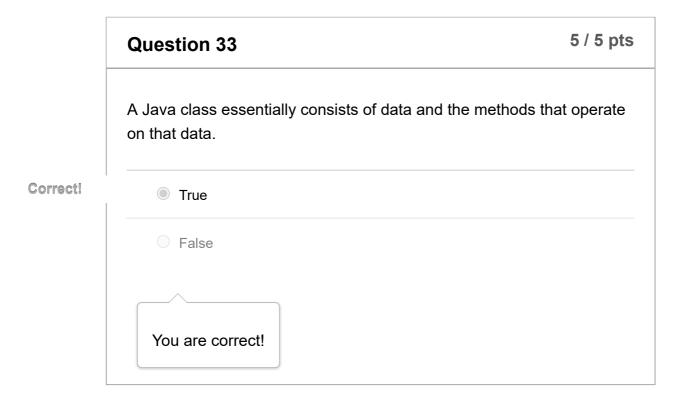
	Question 29	5 / 5 pts
	short is a Java primitive type.	
Correct!	True	
	○ False	
	You are correct!	

Question 30 5 / 5 pts

	A Java class is like a complete blueprint and is used to instantiate a Java object.
Correct!	True
	False
	You are correct!

	Question 31	5 / 5 pts
	number is a Java primitive type.	
	O True	
Correct!	False	
	You are correct!	

	Question 32	10 / 10 pts
	A Java interface is like a complete blueprint and is used to Java object.	o instantiate a
	O True	
Correct!	False	

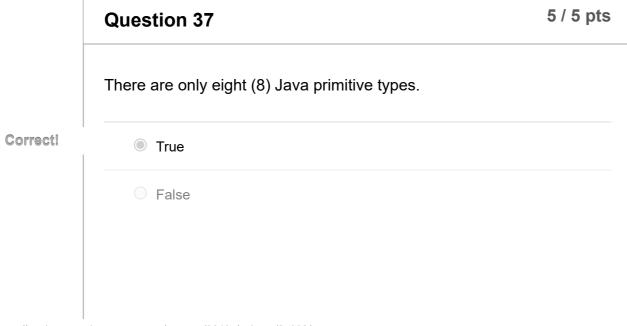


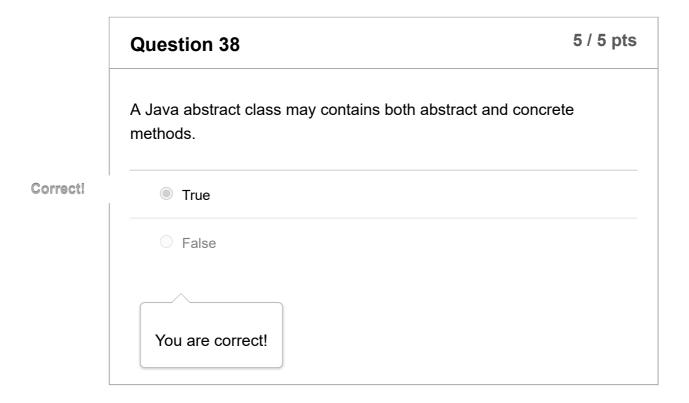
	Question 34	5 / 5 pts
	A Java abstract class is like a complete blueprint and is used instantiate a Java object.	to
Correct!	O True	
	False	
	You are correct!	

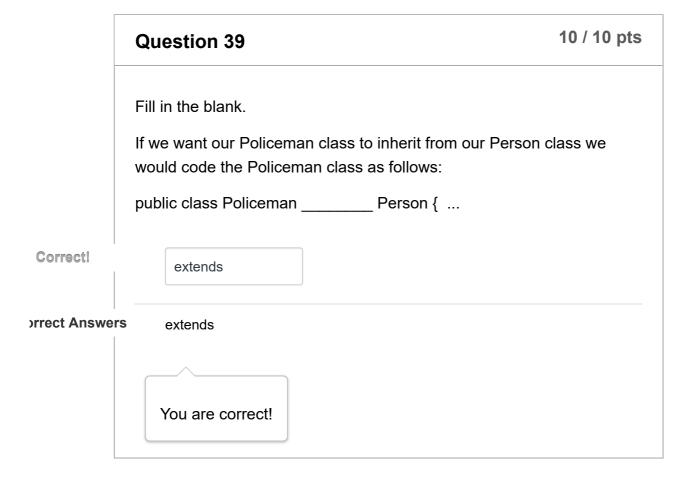
Question 35 5 / 5 pts

	A Java interface contains abstract methods.
Correct!	True
	False
	You are correct!

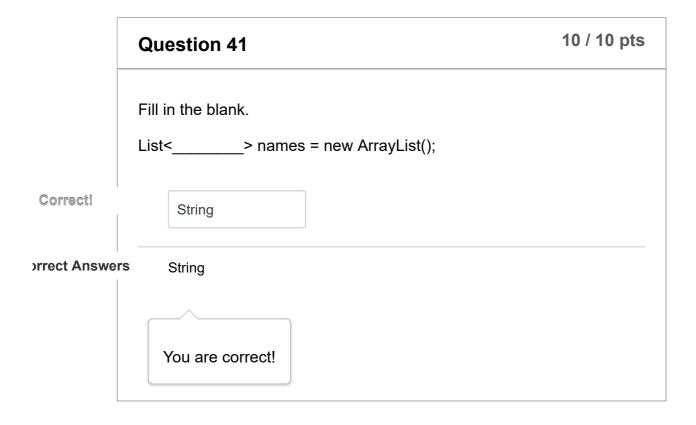
	Question 36	5 / 5 pts
	A Java interface in another name for an abstract class.	
	O True	
Correct!	False	
	You are correct!	







# Fill in the blank. If we want our LectureRoom class to conform to our ClassRoomAPI interface we would code the LectureRoom class as follows: public class LectureRoom \_\_\_\_\_ ClassRoomAPI { ... Correct! implements implements You are correct!



Question 42

10 / 10 pts

How does a Java class provide for data encapsulation?

Question 43

Every Java class is a subclass of the Object class.

Correct!

True

False

You are correct!

Policeman

Question 44

10 / 10 pts

Fill in the blank.

The name of the class constructor method for our Policeman class is
\_\_\_\_\_().

Policeman

Policeman

	Question 45	/ 10 pts
	Fill in the blank.	
	Declare a collection to contain the last names of all our classma	ites.
	List<> names = new ArrayList<>();	
Correct!	String	
rrect Answers	s List <string> names = new ArrayList<string>()</string></string>	
	String, String	
	String and String	
	String	
	String, String	
	You are correct!	

	Question 46	10 / 10 pts
	Advantages of using an Object Oriented design include:	
Correct!	code re-use	
Correct!	modularity	
	improved performance	
	all of these	

That is correct!

	Question 47 10 / 10 pts
	Fill in the blank.
	Declare a collection to contain whole numbers like 1, 2, 3, 4, etc.
	List<> names = new ArrayList<>();
Correct!	Integer
orrect Answer	's Integer,Integer
	List <integer> names = new ArraysList<integer>()</integer></integer>
	Integer
	Integer, Integer
	Integer and Integer
	You are correct!

Question 48	10 / 10 pts
Fill in the blanks.	
List<> library = new ArrayList<>();	
library.add("MacBeth");	
library.add("Othello");	

	library.add("Romeo and Juliet");
	// Show all inventory in  for ( title : library ) {  System.out.println(title);
	}
Correct!	String
orrect Answer	List <string> library = new ArrayList<string>(); for(String title: library){ System.out.println(title);}</string></string>
	String
	String, String, String
	You are correct!

	Question 49	5 / 5 pts
	Every Java Library class is a subclass of the Object class.  Classes we create ourselves are not a subclass of the Object	class.
	O True	
Correct!	False	
	You are correct!	

	Question 50	10 / 10 pts
	Overriding the Object toString() method is an example of polymorphisim.	
Correct!	True	
	○ False	
	You are correct!	

	Question 51	0 / 10 pts
	What is the advantage of using an ArrayList collection class of array to hold items?	over an
Correct!	✓ ArrayList can shrink in size	
	ArrayList has a smaller memory footprint.	
	all of these	
Correct!	ArrayList can grow in size	
	That is correct!	

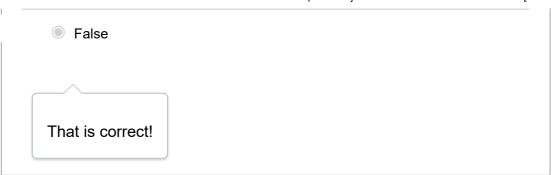
Question 52

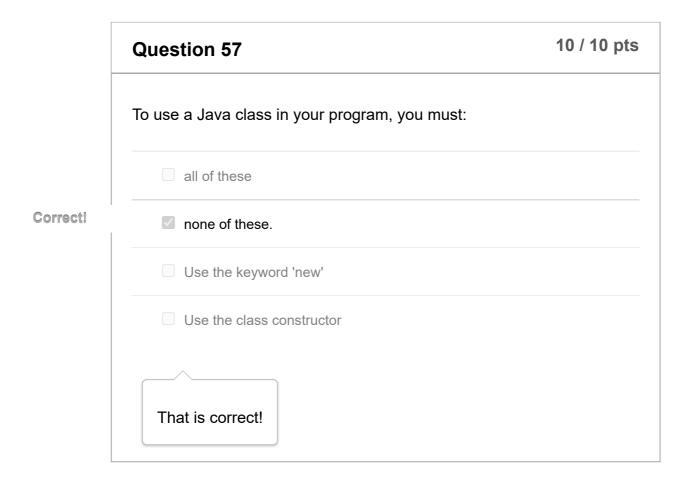
10 / 10 pts

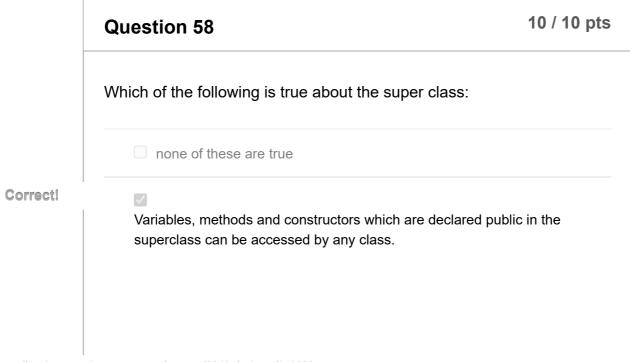
To instantiate a collection object you must:

all of these.

Correct!







That is correct!



Question 60

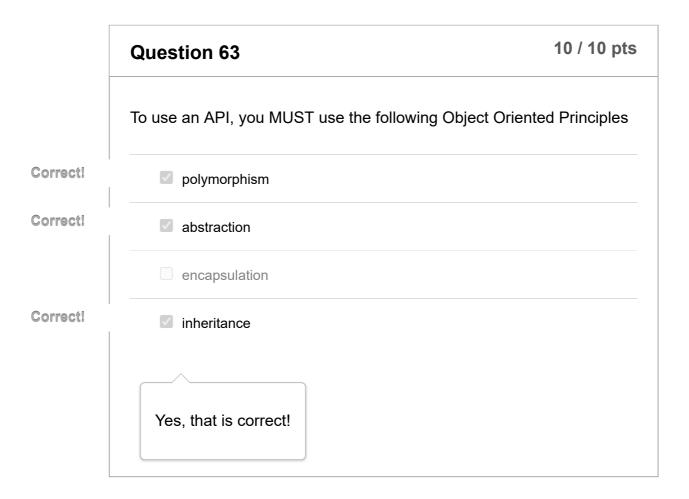
Java supports multiple inheritance.

True

False

## Question 61 FILL IN THE BLANK (spell just like when you code) When deriving subclasses (i.e., a child class inherits from a parent class), what is NOT required but is ALWAYS recommended you use and does not effect code execution. Correct! @Override Override Yes, that is correct!

	Question 62 10 / 10	pts
	Select the TRUE statements. The GoF Singleton design pattern is ALWAYS implemented with:	
	one single design pattern	
	no constructor	
Correct!	static method	
	implicit compiler provided default class constructor	

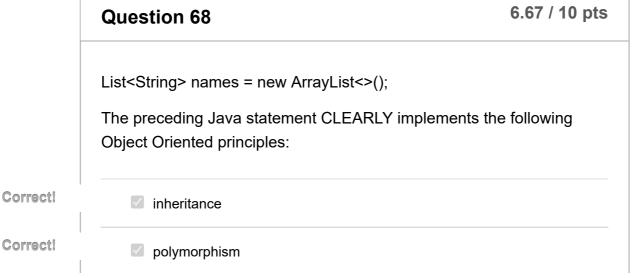


	Question 64 10 / 10 pts	ì
	To implement loose coupling you MUST use the following Object Oriented principles:	
	encapsulation	
Correct!	☑ inheritance	
Correct!	polymorphism	
Correct!	abstraction	

	Question 65	10 / 10 pts
	The Simple factory pattern BREAKS which S.O.L.I.D. desi	gn principles.
	Dependency Inversion principle	
Correct!	Open Closed principle	
Correct!	Single Responsibility principle	
	☐ Interface Segregation principle	
	Yes, that is correct!	

Correct!	Question 66	5 / 5 pts
Correct!	The Singleton design pattern is a:	
	behavioral pattern	
	creational pattern	
	structural pattern	
	organizational pattern	

	Question 67 5 / 5 pts
	Using Design Patterns in your software design:
	lengthens code development cycles as more lines of code must be written
Correct!	improves code readability
Correct!	improves code testability
	increases software development costs to reduce software development time
	Yes, that is correct!



### Question 71 FILL IN THE BLANK (spelling counts ALL LOWERCASE LETTERS WITH NO EXTRA SPACES OR CHARACTERS) When coding in Java, which Object Oriented principle is ALWAYS employed? Correct! inheritance Yes, that is correct!

# Given the following Java statement CODED WITH BEST PRACTICES, SELECT ALL SELECTIONS WHICH ARE TRUE: Person dan = Factory.getInstance().getObject(); We have an implementation of the factory Method pattern We are using a Singleton getObject() is a static method correct! Dan is NOT assigned a reference to a Person object

Question 73 10 / 10 pts

Select ALL CORRECT ANSWERS. Given the following Java code, what is the data type of the reference assigned to names?

List<String> names = new ArrayList<>();

Correct!

None of these are correct answers

Correct!

Object

Yes, that is correct!

Select ALL CORRECT ANSWERS. Given the following Java code, what is the data type of the reference assigned to names?

List<String> names = new ArrayList
Object

Yes, that is correct!

### Question 74 10 / 10 pts

FILL IN THE BLANKS (YOU MUST spell just like when you code with NO EXTRA SPACES OR CHARACTERS) In the following Java code to DEMONSTRATE POLYMORPHISM

```
public class DemoPolymorphism {
    private class Person {
        private String description = null;
        {
             description = "I am a person.";
        }
        public String getDescription() {
            return description;
        }
        public void setDescription(String description) {
             this.description = description;
        }
        @Override
```

**Correct!** 

Correct!

```
public String toString() {
       return getDescription();
     }
  private class Student extends Person {
       setDescription("I am a Student!");
  public static void demo() {
     System.out.println("\n\t" + DemoPolymorphism.class.getName() +
".demo()...");
     DemoPolymorphism obj = new DemoPolymorphism();
           Object
     List<
                              > personList = new ArrayList<>
(Arrays.asList(
          obj.new Person(),
          obj.new Person(),
          obj.new Person()
          ));
           Object
     for (
                              person : personList) {
       System.out.println(person);
     }
     System.out.println("\n\t" + DemoPolymorphism.class.getName() +
".demo()... done!");
  }
}
Answer 1:
    Object
Answer 2:
    Object
   Yes, that is correct!
```

Quiz Score: **589.17** out of 610