

CS23333-Object Oriented Programming Using Java-2023

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Status	Finished
Started	Monday, 14 October 2024, 10:41 PM
Completed	Monday, 14 October 2024, 11:02 PM
Duration	21 mins 15 secs

Question **1**

Complete

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1.00

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Which of these packages contains abstract keyword?

- ☐ a. java.system
- ☒ b. java.lang
- ☐ c. java.io
- ☐ d. java.util

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Finish review

Question **2**

Complete

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Given:

```
1 abstract class AbstractIt
2 {
3     abstract float getFloat();
4 }
5 public class Test1 extends AbstractIt
6 {
7     private float f1 = 1.0f;
8     private float getFloat(){ return f1;}
9
10    public static void main(String[] args)
11    {
12    }
13 }
```

- ☒ a. Compilation error at line no 8
- ☐ b. Compilation succeeds
- ☐ c. Runtime error at line 8
- ☐ d. Compilation error at line no 5

Question **3**

Complete

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A class Car and its subclass Yugo both have a method run() which was written by the programmer as part of the class definition. If junker refers to an object of type Yugo, what will the following code do?

```
junker.run();
```

- ☐ a. The run() method defined in Yugo will be called.
- ☒ b. The compiler will complain that run() has been defined twice.
- ☐ c. The run() method defined in Car will be called.
- ☐ d. Overloading will be used to pick which run() is called.

Question 4

Complete

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What is the output of this program?

```
abstract class A
{
    int i;
    abstract void display();
}

class B extends A
{
    int j;
    void display()
    {
        System.out.println(j);
    }
}

class Abstract_demo
{
    public static void main(String args[])
    {
        B obj = new B();
        obj.j=2;
        obj.display();
    }
}
```

- ☐ a. Compilation error
- ☒ b. Runtime error occurs.

Question **5**

Complete

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Here is a situation:

```
Birthday happy;
```

```
happy = new AdultBirthday( "Joe", 39);
```

```
happy.greeting();
```

Which greeting() method is run ?

- ☐ a. The one defined for Birthday because that is the type of the variable happy.
- ☒ b. The assignment statement where the AdultBirthday object is assigned to happy variable is an error.
- ☐ c. The one defined for AdultBirthday because that is the type of the object referred to by happy.
- ☐ d. The one closest in the source code to the happy.greeting() statement.

Question **6**

Complete

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 [Flag question](#)

Given the following:

```
1. class Over {  
2.     int doStuff(int a, float B. {  
3.         return 7;  
4.     }  
5. }  
6.  
7. class Over2 extends Over {  
8.     // insert code here  
9. }
```


Which method, if inserted at line 8, will not compile?

- ☐ a. `private int doStuff(int x, double y) { return 4; }`
- ☐ b. `public int doStuff(int x, float y) { return 4; }`
- ☐ c. `private int doStuff(int x, float y) {return 4; }`
- ☒ d. `protected int doStuff(int x, float y) {return 4; }`

Question /

Complete

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Given:

```
1. abstract class AbstractClass {  
2.     void setup() {}  
3.     abstract int execute();  
4. }  
5. class EC extends AbstractClass {  
6.     int execute() {  
7.         System.out.println("execute of EC invoked");  
8.         return 0;  
9.     }  
10.}  
11. public class TestEC {  
12.     public static void main(String... args) {  
13.         EC ec = new EC();  
14.         ec.setup();  
15.         ec.execute();  
16.     }  
17. }
```


What is the expected behaviour?

- ☐ a. Compilation error at line 2.
- ☐ b. Runtime error occurs.
- ☐ c. Compilation error at line 14.
- ☒ d. Prints "execute of EC invoked".

Question 8

Complete

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1.00

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Which of these keywords can be used to prevent Method overriding?

- ☒ a. protected
- ☐ b. final
- ☐ c. static
- ☐ d. constant

Question 9

Complete

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Given the following:

```
class Foo {  
    String doStuff(int x) { return "hello"; }  
}
```

Which method would not be legal in a subclass of Foo?

- ☐ a. int doStuff(int x) { return 42; }
- ☐ b. public String doStuff(int x) { return "Hello"; }
- ☒ c. protected String doStuff(int x) { return "Hello"; }
- ☐ d. String doStuff(int x) { return "hello"; }

Question **10**

Complete

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Which one of the following statement is false?

- ☐ a. A subclass must override all the methods of the superclass.
- ☐ b. Inheritance defines a is-a relationship between a superclass and its subclasses.
- ☒ c. It is possible for a subclass to define a method with the same name and parameters as a method defined by the superclass.
- ☐ d. Aggregation defines a has-a relationship between a superclass and its subclasses.

Question **11**

Complete

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If a class inheriting an abstract class does not define all of its function then it will be known as?

- ☒ a. None of the mentioned
- ☐ b. A simple class
- ☐ c. Static class
- ☐ d. Abstract

Question **12**

Complete

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Which statement is true?

- ☐ a. Public methods of a superclass cannot be overridden in subclasses.
- ☐ b. Private methods of a superclass cannot be overridden in subclasses.
- ☐ c. Protected methods of a superclass cannot be overridden in subclasses.
- ☒ d. Methods with default access in a superclass cannot be overridden in subclasses.

Question **13**

Complete

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 Flag question

Given the following code:

```
class MySuper {  
    final int calculate(int i, int j) {  
        return i * j;  
    }  
}  
  
public class MySub extends MySuper {  
    int calculate(int i, int j) {  
        return 2 * i * j;  
    }  
  
    public static void main(String[] args) {  
        MySuper sup = new MySub();  
        int k = sup.calculate(2, 5);  
        System.out.println(k);  
    }  
}
```

What is the result?

- ☐ a. 10
- ☒ b. An exception is thrown at runtime
- ☐ c. Compilation error
- ☐ d. 20

Question **14**

Complete

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
Which declaration prevents creating a subclass of a top level class?

- ☐ a. `private class Javacg{}`
- ☐ b. `final abstract class Javacg{}`
- ☒ c. `abstract public class Javacg{}`
- ☐ d. `final public class Javacg{}`

Question **15**

Complete

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Which one of the following statements is true?

- ☐ a. An abstract class can not extend a concrete class.
- ☐ b. An abstract class can be instantiated.
- ☐ c. An abstract class is implicitly final.
- ☒ d. An abstract class can declare non-abstract methods.

Question **16**

Complete

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1.00

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What is the process of defining a method in subclass having same name & type signature as a method in its superclass?

- ☐ a. Method overriding
- ☐ b. Method hiding
- ☐ c. Method overloading
- ☒ d. None of the mentioned

Question **17**

Complete

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1.00

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Which statement is true?

- ☐ a. A subclass can override any method present in a superclass.
- ☒ b. The parameter list of an overriding method must be a subset of the parameter list of the method that it is overriding.
- ☐ c. Private methods of a superclass cannot be overridden in subclasses.
- ☐ d. An overriding method can declare that it throws more exceptions than the method it is overriding.

Question **18**

Complete

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What will be the result of attempting to compile and run the following program?

```
public class Polymorphism2 {  
    public static void main(String[] args) {  
        A ref1 = new C();  
        B ref2 = (B) ref1;  
        System.out.println(ref2.g());  
    }  
}  
  
class A {  
    private int f() {  
        return 0;  
    }  
  
    public int g() {  
        return 3;  
    }  
}  
  
class B extends A {  
    private int f() {  
        return 1;  
    }  
  
    public int g() {  
        return f();  
    }  
}  
  
class C extends B {  
    public int f() {  
        return 2;  
    }  
}
```

- ☐ a. The program will compile without error and print 1 when run.
- ☒ b. The program will compile without error and print 2 when run.

Question **19**

Complete

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1.00

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What is an abstract method?

- ☐ a. An abstract method is any method in an abstract class.
- ☒ b. An abstract method is one without a body that is declared with the reserved word abstract
- ☐ c. An abstract method is a method in the child class that overrides a parent method.
- ☐ d. An abstract method is a method which cannot be inherited.

Question **20**

Complete

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1.00

 [Flag question](#)

Which statement is true?

- ☒ a. It is possible for a subclass to define a method with the same name and parameters as a method defined by the superclass.
- ☐ b. A subclass must define all the methods from the superclass.
- ☐ c. Aggregation defines a is-a relationship between a superclass and its subclasses.
- ☐ d. It is possible for two classes to be the superclass of each other.

Question **21**

Complete

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In the below class, is constructor overloaded or is method overloaded?

```
public class A
{
    public A()
    {
        //-----> (1)
    }


    void A()
    {
        //-----> (2)
    }
}
```

- ☐ a. Method
- ☐ b. None of the mentioned
- ☒ c. Both constructor and method
- ☐ d. Constructor

Question **22**

Complete

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1.00

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Can an abstract class define both abstract methods and non-abstract methods?

- ☐ a. No-it must have all abstract methods.
- ☐ b. No-it must have all one or the other.
- ☒ c. Yes-but the child classes do not inherit the abstract methods.
- ☐ d. Yes-the child classes inherit both.

Question **23**

Complete

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1.00

 Flag question

What will be the result of attempting to compile and run the following program?

```
public class Polymorphism {  
    public static void main(String[] args) {  
        A ref1 = new C();  
        B ref2 = (B) (ref1);  
        System.out.println(ref2.f());  
    }  
}
```

```
class A {  
    int f() {  
        return 0;  
    }  
}
```

```
class B extends A {  
    int f() {  
        return 1;  
    }  
}
```

```
class C extends B {  
    int f() {  
        return 2;  
    }  
}
```

- ☐ a. The program will fail to compile.
- ☒ b. The program will compile without error, but will throw a `ClassCastException` when run.
- ☐ c. The program will compile without error and print 2 when run.
- ☐ d. The program will compile without error and print 1 when run.

Question **24**

Complete

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1.00

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Which of these is supported by method overriding in Java?

- ☐ a. Encapsulation
- ☒ b. None of the mentioned
- ☐ c. Abstraction
- ☐ d. Polymorphism

Question **25**

Complete

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1.00

 Flag question

What is the output of this program?

```
class A
{
    int i;
    public void display()
    {
        System.out.println(i);
    }
}
class B extends A
{
    int j;
    public void display()
    {
        System.out.println(j);
    }
}
class Dynamic_dispatch
{
    public static void main(String args[])
    {
        B obj2 = new B();
        obj2.i = 1;
        obj2.j = 2;
        A r;
        r = obj2;
        r.display();
    }
}
```

- ☐ a. 3
- ☒ b. 2
- ☐ c. 4
- ☐ d. 1

Question **26**

Complete

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1.00

[Flag question](#)

Given:

```
abstract class Shape {  
    public abstract void draw();  
}  
  
public class Circle extends Shape {  
    public void draw() { }  
}
```


Which one of the following statement is correct?

- ☒ a. `Shape s = new Shape();`
`s.draw();`
- ☐ b. `Circle c = new Shape();`
`c.draw();`
- ☐ c. `Shape s = new Circle();`
`s.draw();`
- ☐ d. `Shape s = new Circle();`
`s->draw();`

Question **27**

Complete

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1.00

 Flag question

Given the following:

```
class A {  
    public void baz() {  
        System.out.println("A");  
    }  
}  
  
public class B extends A {  
    public static void main(String[] args) {  
        A a = new B();  
        a.baz();  
    }  
  
    public void baz() {  
        System.out.println("B");  
    }  
}
```


What is the result?

- ☐ a. B
- ☐ b. Compilation fails.
- ☒ c. A
- ☐ d. An exception is thrown at runtime.

Question **28**

Complete

Marked out of
1.00

 [Flag question](#)

Given:

```
1. public class TestOverload {  
2.  
3.     public void process() {  
4.     }  
5.  
6.     public String process() {  
7.         return "hello";  
8.     }  
9.  
10.    public float process(int x) {  
11.        return 67.5f;  
12.    }  
13.}
```

What is the result?

- ☐ a. Compilation fails because of an error in line 10.
- ☒ b. Compilation succeeds and no runtime errors with class TestOverload occur.
- ☐ c. Compilation fails because of an error in line 6.
- ☐ d. An exception is thrown at runtime.

Question **29**

Complete

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Here is an abstract method defined in the parent:

```
public abstract int sumUp ( int[] arr );
```

Which of the following is required in a non-abstract child?

- ☐ a. `public int sumUp (int[] arr) { ... }`
- ☐ b. `public double sumUp (int[] arr) { ... }`
- ☒ c. `public abstract int sumUp (int[] arr) { ... }`
- ☐ d. `public int sumUp (long[] arr) { ... }`

Question **30**

Complete

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1.00

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Which statement is true?

- ☐ a. The subclass of a non-abstract class can be declared abstract.
- ☐ b. A final class can be abstract.
- ☒ c. A class in which all the members are declared private, cannot be declared public.
- ☐ d. All the members of the superclass are inherited by the subclass.

Question **31**

Complete

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1.00

 Flag question

Given the following:

```
1. class ParentClass {  
2.     public int doStuff(int x) {  
3.         return x * 2;  
4.     }  
5. }  
6.  
7. public class ChildClass extends ParentClass {  
8.     public static void main(String [] args ) {  
9.         ChildClass cc = new ChildClass();  
10.        long x = cc.doStuff(7);  
11.        System.out.println("x = " + x);  
12.    }  
13.  
14.    public long doStuff(int x) {  
15.        return x * 3;  
16.    }  
17. }
```

What is the result?

- ☐ a. x = 21
- ☒ b. Compilation fails at line 14.
- ☐ c. Compilation fails at line 2.
- ☐ d. x = 14

Question **32**

Complete

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1.00

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What is an abstract class?

- ☐ a. An abstract class is another name for "base class."
- ☐ b. An abstract class is one without any child classes.
- ☐ c. An abstract class is a class which cannot be instantiated.
- ☒ d. An abstract class is any parent class with more than one child class.

Question **33**

Complete

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1.00

🚩 Flag question

Given the following,

1. abstract class A {
2. abstract short m1();
3. short m2() { return (short) 420; }
4. }
- 5.
6. abstract class B extends A {
7. // missing code?
8. short m1() { return (short) 42; }
9. }


Which of the following statements is true?

- ☐ a. If class A was not abstract and method m1() on line 2 was implemented, the code would not compile.
- ☒ b. It is legal, but not required, for class B to either make an abstract declaration of method m2() or implement method m2() for the code to compile.
- ☐ c. As long as line 8 exists, class A must declare method m1() in some way.

Question **34**

Complete

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 Flag question

Given the following classes and declarations, which statement is true?

```
// Classes
```

```
class Foo {
```

```
    private int i;
```

```
    private void f() { /* ... */ }
```

```
    public void g() { /* ... */ }
```

```
}
```

```
class Bar extends Foo {
```

```
    public int j;
```

```
    public void g() { /* ... */ }
```

```
}
```

```
// Declarations:
```

```
// ...
```

```
    Foo a = new Foo();
```

```
    Bar b = new Bar();
```

```
// ...
```

- ☐ a. The statement `a.g();` is legal.
- ☐ b. The statement `b.f();` is legal.
- ☒ c. The statement `b.i = 3;` is legal
- ☐ d. The statement `a.j = 5;` is legal.

Question 35

Complete

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What would be the result of attempting to compile and executing the following code?

```
// Filename: MyClass.java
public class MyClass {
    public static void main(String[] args) {
        C c = new C();
        System.out.println(c.max(13, 29));
    }
}

class A {
    int max(int x, int y) {
        if (x > y)
            return x;
        else
            return y;
    }
}

class B extends A {
    int max(int x, int y) {
        return super.max(y, x) - 10;
    }
}

class C extends B {
    int max(int x, int y) {
        return super.max(x + 10, y + 10);
    }
}
```

- ☒ a. The code will fail to compile because the max() method in B passes the arguments in the call super.max(y, x) in the wrong order.
- ☐ b. code will compile without errors and will print 39 when run.
- ☐ c. The code will fail to compile because a call to a max() method is ambiguous.
- ☐ d. code will compile without errors and will print 29 when run.

Finish review