UCD SCJA Course SAMPLE Exam, January 2009

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Instructions:

Answer ALL 25 questions. Clearly mark your choice(s) for each question. If you want to change your answer, please ensure that your final choice(s) is/are clearly marked.

Do NOT detach pages from this exam, and do NOT add anything - only your indicated choices will be marked, there is no need to provide any explanation.

1. Select the correct *setter* and *getter* method for the property `limit` according to the JavaBeans convention (choose all correct answers):

```
public class PropertyCheck {
      private int limit;
}
```

A. `public void setLimit(int limit) { this.limit=limit; }`

B. `public int setLimit(int limit) { return this.limit; }`

C. `public void getLimit(int limit) { this.limit=limit; }`

D. `public int getLimit() { return this.limit; }`

E. `public int setLimit() { return this.limit; }`

2. With which of the following values can a `boolean` primitive be initialized? (choose all correct answers)

A. `true`

B. `false`

C. `null`

D. `0`

E. `-1`

3. *Multiple inheritance* is one of the key concepts of the Java programming language:

A. The statement is true

B. The statement is false

4. Which of the following statements about *associations* is true? (choose the correct answer)

A. A one-to-one association exists between class A and class B if class A extends class B

B. A one-to-many association exists between class A and class B if class A and class B are in the same package

C. A many-to-many association exists between class A and class B if class A and class B are in different packages

D. None of the above

5. What is the representation of *inheritance* in a UML class diagram?

A. An open headed arrow pointing to the inheriting class

B. A closed headed arrow pointing to the inheriting class

C. A closed headed dashed arrow pointing to the parent class

D. A closed headed arrow pointing to the parent class

6. Which identifier marks *private* instance variables and methods in a UML class diagram?

A. **+**

B. *****

C. **–**

D. **#**

7. What is the representation of a *multiplicity indicator* for a range from 1 to 10?

A. **1-10**

B. ***-10**

C. **1,1:10-10**

D. **10:1**

E. **1..10**

8. Which of the given code fragments will compile without errors? (choose all correct answers)

A. `float f=3.5;`

B. `double d=3.5;`

C. `int i=10;`

D. `char c = "C";`

9. Which of the following statements about *abstract classes* in Java are true? (choose all correct answers)

A. A class must be declared `abstract` if one or more methods are `abstract`

B. A class can be declared `abstract` if one or more methods are `abstract`

C. A class can be declared `abstract` if it has no `abstract` methods

D. An `abstract` class cannot be instantiated

10. The following Java code compiles without errors:

```
interface IFace1 {
        public int calcOne();
}
interface IFace2 implements IFace1 {
        public int calcTwo();
}
```

A.   The statement is true
B.   The statement is false

11. Which of the following statements about the `Concrete` class are true? (choose all correct answers)

```
public class Concrete {
      private String name;
      Concrete(String name) {
            this.name = name;
      }
}
```

A. The `Concrete` class has an instance variable called `name`

B. The `Concrete` class has a default constructor

C. The `Concrete` class must be declared `abstract` in order to compile without errors

D. The `Concrete` class can be instantiated with:

```
Concrete c = new Concrete();
```

E. The `Concrete` class can be instantiated with:

```
Concrete c = new Concrete("name");
```

F. The `Concrete` class can be instantiated with:

```
Concrete c = Concrete.instance("name");
```

12. What is the result of compiling and running the following code? (choose the correct answer)

```java
class SuperClass {
        public void invokeMethod() {
                System.out.println("SuperClass");
        }
}
class SubClass extends SuperClass {
        public void invokeMethod() {
                System.out.println("SubClass");
        }
}
public class TestClass {
        public static void main(String args[]) {
                SuperClass clazz = new SubClass();
                clazz.invokeMethod();
        }
}
```

  A. SuperClass
  B. SubClass
  C. SubClass
      SuperClass
  D. Compilation fails

13. Which of the following statements about the `School` and `Student` classes are true? (choose all correct answers)

```java
class Student {}
class School {
        private Student student[];
}
```

A. A `School` is associated with one `Student`

B. A `School` is associated with many `Students`

C. The `School` class implements multiplicity using an array

D. `student[]` is navigable through the `School` class

14. What is the result of compiling and running the following code? (choose the correct answer)

```
public class LoopCheck {
      public static void main(String args[]) {
            int i = 0;
            int x = 10;
            while ( x > 6 ) {
                  System.out.print(++i + " ");
                  x--;
            }
      }
}
```

A. 1 2 3 4 5

B. 0 1 2 3 4

C. 1 2 3 4

D. 0 1 2 3

15. Which of the following statements about the `ScopeCheck` class are true? (choose all correct answers)

```
public class ScopeCheck {
      private String name;
      private int age;
      public String call(String s) {
            String text;
            return s;
      }
}
```

A. The variables `name` and `age` are instance variables

B. The variable `text` is a method parameter variable

C. The variable `text` is a local variable

D. Compilation fails because variable `text` is not initialized

16. What will be the result of compiling and running the following code? (choose the correct answer)

```java
public class Intializer {

        private int i = -1;

        private boolean b = true;

        private String s = "";

        public static void main(String args[]) {

                Intializer iz = new Intializer();

                System.out.println(iz.i + " " + iz.b + " " + iz.s);

        }
}
```

A. `-1 true null`

B. `-1 true`

C. `0 false null`

D. Compilation fails

17. Which of the following options are valid Java *operators*? (choose all correct answers)

A. `=>`

B. `+=`

C. `&|`

D. `=!`

E. ‖

18. Which of the following statements represent correct `import` statements at the beginning of a Java source file? (choose all correct answers)

A. `import java.util.*;`

B. `import java.io;`

C. `import java.util.Enumeration`

D. `import java.net.URL;`

19. Which of the following options will compile the source file `Destination.java` and place the generated class files in `c:\devel\dist` ? (choose the correct answer)

A. `javac -dest c:\devel\dist Destination.java`

B. `javac -D=c:\devel\dist Destination.java`

C. `javac -d c:\devel\dist Destination.java`

D. `javac Destination.java -D c:\devel\dist`

20. Which *J2EE service* enables applications to look up resources bound to a directory structure?

A. JMS

B. SQL

C. JNDI

D. RDBMS

21. Select the appropriate *Java edition* for the following application: the application is deployed as a JAR file on a PDA.

A. J2ME

B. J2EE

C. J2SE

22. Which of the following statements about *applets* are true? (choose all correct answers)

A. An Applet runs on an application server

B. An Applet is deployed on mobile devices

C. An Applet is downloaded from a webserver to a client

D. The client needs a JRE to start an applet

E. The client does not need a JRE to start an applet

23. Which of the following statements about *AWT components* are true? (choose all correct answers)

A. AWT components are called lightweight components because they are easy to develop

B. AWT components are called lightweight components because they don't use much memory

C. AWT components are called heavyweight components because they rely on the underlying native GUI

D. The look-and-feel of a `java.awt.Button` on a Microsoft Windows System is the same as on a Unix System

24. Information about the history of viewed items for an online shop user should be kept for the whole time the user spends on the shop site. Which object is an appropriate way to store this data?

A. HttpServletResponse

B. HttpServletRequest

C. EnterpriseSession

D. HttpSession

25. Which of the following statements about Servlets are true? (choose all correct answers)

A. The communication between a web client and a servlet is asynchronous

B. WSDL is used to describe a servlet

C. A Servlet is a Java component deployed on a J2EE server

D. A Servlet can handle GET and POST requests