

### Exercise 3 (25 Questions: Answers)

1. If a JavaBean has a no-argument constructor, then this constructor must be the default constructor.

(a) true    (b) ☒ false

2. In order to use the EL technology in the JSP files of a Java web application, we have to include the JSTL libraries in this web application.

(a) true    (b) ☒ false

3. When we send a parameter to a servlet, can we make the parameter name contain a space character?

(a) ☒ yes    (b) no

4. In a JSP file, in order to avoid the *cross-site scripting* (XSS) attack, which of the following ways should be used?

(I) `<c:out value="${message}" escapeXml="true" />`

(II) `<c:out value="${message}" escapeXml="false" />`

(a) ☒ (I) only    (b) (II) only    (c) both (I) and (II)  
 (d) neither (I) nor (II)

5. If we want to retrieve a parameter in a JSP, we can use an implicit object. Which of the following types of implicit objects should be used?

(a) a JSP implicit object only  
 (b) ☒ an EL implicit object only  
 (c) both a JSP implicit object and an EL implicit object

6. How do we make a JavaBean immutable?

(a) Remove all the getters.    (b) Remove all the setters.  
 (c) Implement the `Immutable` interface.  
 (d) ☒ Make sure that there is no method in this JavaBean that can change any property of it.

7. In a `<jsp:useBean>` tag, we use both `type` and `class` attributes. Which of the following can be used as values for both `type` and `class` attributes?
- (a) an interface    (b) an abstract class    (c) ✓ a concrete class
8. Assume that there is a string delimited by a few special symbols. If you want to display the parts of the string delimited by these symbols in multiple lines in a JSP, which of the following tags should you use?
- (a) `<c:forEach>`    (b) ✓ `<c:forToken>`
9. Which of the following are evaluated first?
- (a) ✓ JSP directives    (b) EL expressions
10. If your Java program contains the following line that misspells the JDBC driver class name,
- ```
Class.forName("com.jdbc.mysql.Drivver");
```
- which of the following types of errors will you get?
- (a) a compile error    (b) ✓ a runtime error
11. To store the state information of users in JavaBeans, what types of variables should be used?
- (a) *static* variables    (b) ✓ *instance* variables
12. In a JSP, if we know that the expression `#{books["4"]}` does not throw any exception, which of the following statements is correct?
- (a) The expression `#{books}` *must be* a `Map` object.  
(b) The expression `#{books}` *must be* an array object.  
(c) The expression `#{books}` *must be* a `List` object.  
(d) ✓ The expression `#{books}` *could be* any one of the three cases: a `Map` object, a `List` object, or an array object.
13. In a JSP, if we know that the expression `#{books["4"]}` throws an exception, then we can say that `#{books}` must be a bean object.
- (a) ✓ true    (b) false

14. Is it possible that in the two expressions: `${mydata.abc}` and `${mydata[abc]}`, one throws an exception, while the other does not?

- (a) ☒ yes    (b) ☐ no

15. In a JSP, which of the following statements is correct?

- (a) If `${foo["3"]}` does not throw any exception, then `${foo[3]}` does not throw any exception.  
(b) If `${foo[3]}` does not throw any exception, then `${foo["3"]}` does not throw any exception.

(Need an example of a JavaBean to get the answer - not considered for this test)

16. Given:

```
11. <% List<String> mylist = new ArrayList<String>();  
12. mylist.add("math");  
13. mylist.add("cs");  
14. mylist.add("123");  
15. request.setAttribute("mylist", mylist);  
16. request.setAttribute("num", "2");  
17. %>
```

Which of the following expressions is NOT legal?

- (a) `${mylist[0]}`    (b) `${mylist[num]}`    (c) ☒ `${mylist["num"]}`  
(d) `${mylist[2]+1}`

17. Given:

```
1. <% List<String> booklist = new ArrayList<String>();  
2. booklist.add("1025");  
3. booklist.add("music");  
4. booklist.add("history");  
5. request.setAttribute("books", booklist);  
6. request.setAttribute("index", "1");  
7. %>
```

Which of the following expressions is NOT legal?

- (a) `${booklist["2"]}`    (b) `${booklist["0"]-100}`    (c) `${booklist[index]}`  
(d) `${booklist[0]+1}`    (e) ☒ `${booklist["index"]}`

18. In a JSP, we want to send a parameter to a servlet as a hidden parameter. Assume that the name of the hidden parameter is **make**, and the value of this parameter is **supermaker**. How to write this hidden parameter in an HTML form?

**Ans:**

```
<input type="hidden" name="make" value="supermaker" />
```

19. In a JSP, we want to set a new value to an attribute. Which of the following ways is the *best*?

- (a) `<c:set var="foo" value="<c:out value='${somevalue}' />" />`
- (b) `<c:set var="foo" value="${somevalue}" />`
- (c) `<c:set var="foo">${somevalue}</c:set>`
- (d) ✓ `<c:set var="foo">  
    <c:out value="${somevalue}" default="anothervalue" />  
</c:set>`

(Not considered for this test)

20. Given:

```
11. <% java.util.List list = new java.util.ArrayList();  
12. list.add("a");  
13. list.add("2");  
14. list.add("c");  
15. request.setAttribute("list", list);  
16. request.setAttribute("listIdx", "1");  
17. %>  
18. <%-- insert code here --%>
```

Which, inserted at line 18, are valid and evaluate to a?

- (a) `${list["a"]}`
- (b) `${list.a}`
- (c) `${list[listIdx+1]}`
- (d) ✓ `${list[listIdx - 1]}`
- (e) `${list[list[listIdx]-1]}`

21. If in a JSP there are the following two lines,

```
<c:set var="course" value="&lt;u&gt;Java&lt;/u&gt;" />  
<c:set var="mycourse"><c:out value="${course}" /></c:set>
```

when you display the EL expression `${mycourse}`, what will you see?

- (a) Java
- (b) Java
- (c) `<u>Java</u>`
- (d) ✓ `&lt;u&gt;Java&lt;/u&gt;`

(Not considered for this test)

22. Assume that there is a session attribute called `color` with the value `red`. Now in a JSP, we write the following line

```
<c:set var="color" value="yellow" />
```

Which of the following statements is correct?

- (a) The value of the session attribute `color` is changed to `yellow`.
- (b) ✓ The value of the session attribute `color` is still `red`.

(Not considered for this test)

23. Given:

```
10. public class CarBean {  
11.     private java.util.Map models;  
12.     private java.util.List cars;  
13.     private String brand;
```

```
14-20.     // constructor:  prepare data
```

```
21.     public java.util.Map getModels() { return models; }  
22.     public String getBrand() { return brand; }  
23.     public java.util.List getCars() { return cars; }  
24. }
```

Which will cause errors (assume that an attribute named `xbean` can be found, and is of the type `CarBean`)?

- (a) `${xbean.brand}` (b) `${xbean["brand"]}` (c) `${xbean.models["SUV"]}`
- (d) `${xbean["models"].truck}` (e) ✓ `${xbean.cars.compact}`

24. In a JSP, we want to compare two integers stored in the URL parameters using JSTL. Assume that these two integers are stored under the parameter names `intA` and `intB`. If the first parameter value is greater than the second parameter value, print out the string “`greater`”; otherwise, print out the string “`less or equal`”.

**Ans:**

```
<c:choose>  
    <c:when test="${param.intA > param.intB}">greater</c:when>  
    <c:otherwise>less or equal</c:otherwise>  
</c:choose>
```

25. In a JSP, assume that an attribute with name `cards` is a `List<String>` object. How to use the JSTL to display the content of the attribute as an unordered list?

**Ans:**

```
<ul>
  <c:forEach var="card" items="${cards}">
    <li>${card}</li>
  </c:forEach>
</ul>
```