

Exercise 1 (25 Questions: Answers)

1. In the late 90s, Java became a hot buzzword in IT industry. Which of the following technologies in Java contributed to this the most?

(a) Java graphics (b) Java servlets (c) ✓ Java applets
(d) Java networking

Explanation: The Java applets run inside web browsers, after the browsers install the Java runtime plugin. The users could use many desktop features in Java applets that made users feel excited at that time.

2. JavaScript is a simplified version of Java.

(a) true (b) ✓ false

Explanation: JavaScript has nothing to do with Java. It borrowed the name from Java for marketing purpose.

3. Which of the following is the original name of JavaScript?

(a) NetScript (b) MagicScript (c) PowerScript (d) ✓ LiveScript

4. Is JavaScript an interpreted programming language or a compiled programming language?

(a) ✓ interpreted (b) compiled

Explanation: The web browser interprets the JavaScript source files.

5. Are the Apache HTTP server and the Tomcat server essentially the same server?

(a) yes (b) ✓ no

Explanation: The Apache HTTP web server is written in C. It cannot run Java programs. The Tomcat server is a pure Java server. It is the most popular java server for developing Java web applications.

6. Is it true that for a Java web application, the web server and the database server must stay in the same machine?

- (a) yes (b) ✓ no

Explanation: Actually it is a better way to separate the web server and the database server, because it will help to improve the performance and security.

7. The Tomcat server evolved to become a solid production server.

- (a) ✓ true (b) false

Explanation: At the beginning, it was used for implementing the Java servlet specification. It was not of the production quality. Since version 4, it became a solid Java production server.

8. In which of the following tiers do we write our Java programs to implement our business logic?

- (a) the presentation tier (b) ✓ the middle tier (c) the database access tier

9. Which of the following should not access the database?

- (a) ✓ client-side JavaScript (b) server-side programs

Explanation: Although JavaScript is capable of accessing database from the client side, it is not recommended to do that due to the security reason.

10. Is it possible that an HTTP response object contains binary data?

- (a) ✓ yes (b) no

11. Which of the following folders is the deployment directory of Tomcat?

- (a) htdocs (b) ✓ webapps (c) webdir (d) webdocs

12. Which of the following file types can be used to deploy Java web applications?

- (a) .zip (b) .rar (c) .jar (d) ✓ .war

13. Which of the following directories is required in a Java web applications?

- (a) css (b) js (c) images (d) ✓ WEB-INF

14. Which of the following types of Java files *must* be included in the directory `WEB-INF/classes`
- (a) ✓ the Java class files (b) the Java source files
15. It is possible to access the resources inside the directory `WEB-INF` internally within the Java web application.
- (a) ✓ true (b) false
16. Two Java web applications deployed on the same server act as if they were deployed on separate servers.
- (a) ✓ true (b) false
17. The only way to configure a Java servlet is to configure it *explicitly* inside the `web.xml` file.
- (a) true (b) ✓ false
18. It is possible to use the WinZip software to open the JAR files and WAR files.
- (a) ✓ true (b) false
19. The Eclipse IDE compiles the Java source files automatically.
- (a) ✓ true (b) false
20. The welcome file of a Java web application must be a physical file.
- (a) ✓ true (b) false
21. A Java web application needs to provide services to many users concurrently. Therefore a Java servlet needs to generate many instances to handle the requests from those different users.
- (a) true (b) ✓ false
22. It is required that each servlet can only have one URL pattern.
- (a) true (b) ✓ false

23. The tools that process Java annotations can only process those annotation lines inside the Java source files, not in the compiled Java class files.
- (a) true (b) ✓ false
24. Every time you change a Java annotation in a source file, the file has to be recompiled to get the change updated.
- (a) ✓ true (b) false
25. A Java annotation line is treated as a Java statement in the program.
- (a) true (b) ✓ false
26. If you configure a servlet in both the `web.xml` and in an annotation, which one takes the precedence?
- (a) ✓ the one in the `web.xml` (b) in the annotation
27. In Java web applications, we can use the Java annotations to completely replace the XML-based configuration file, namely `web.xml`.
- (a) true (b) ✓ false
28. A Java programmer can process an HTTP request directly without any difficulty.
- (a) true (b) ✓ false
29. A web browser can convert a Java `HttpServletResponse` object to an HTTP response before it renders the returned page.
- (a) true (b) ✓ false
30. When we develop Java servlets, we need to deal with the socket-based networking directly.
- (a) true (b) ✓ false