

Self-test Java concepts

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INTRODUCTION TO THE SELF-TEST JAVA CONCEPTS

In order to get a reasonable indication for the prerequisites of the [Java programming](#) course, the following questionnaire might help to check your personal knowledge of the various topics discussed in the [Java concepts](#) course.

In this Java test, 20 questions are posed. For most questions, *there is only one answer possible*. If multiple answers are possible, it will be clearly indicated. The question is answered correctly, if and only if all correct answers are given.

There are no real trick questions (at least not intentional) but read question and answer attentively.

You must take into account that this test will take you about 10 minutes.

You can find the right answers and guidelines for the evaluation at the end of this document.

Note: If you want to follow the [Java programming](#) course, you should also be familiar with an object oriented language and/or environment. For a test on your OO knowledge we refer to the [Self-test OO concepts and techniques](#).

QUESTIONS SELF-TEST JAVA CONCEPTS

1. The **Java specifications** describe (2 correct answers)
 - [a] a programming language
 - [b] an internet browser
 - [c] a set of libraries
 - [d] an operating system.

2. **Java** claims to be a universal language. Which statements about the Java language are correct? (3 correct answers):
 - [a] Java is a portable language
 - [b] Java is a weakly-typed language
 - [c] Java is an object-oriented language.
 - [d] Java is a machine-dependent language
 - [e] Java is a secure language

3. A **.class** file *is a file that contains*
 - (a) a collection of methods and objects
 - (b) compiled Java code
 - (c) a set of security definitions to be used by the Java Virtual Machine
 - (d) an organised collection of objects (e.g. alphabetically sorted).

4. Which is **NOT** a function of a Java Virtual Machine (JVM)?
 - (a) loading and interpretation of the byte code class file
 - (b) cleaning up unused objects via the garbage collector
 - (c) checking the operating system properties, for accessing the user's private configuration
 - (d) memory management of the stack and the heap

5. Which is true about the **standard Java libraries** from the SDK?
 - (a) javax.* packages are only available in the Java EE
 - (b) Standard Java libraries are only delivered by Oracle
 - (c) Standard Java libraries are only delivered in source format
 - (d) Standard Java libraries are developed based on the Java Community Process

6. Which API is **NOT** part of the **Java SE**
- (a) RMI (Remote Method Invocation)
 - (b) JMS (Java Messaging Services)
 - (c) JDBC (Java Data Base Connectivity)
 - (d) JNDI (Java Naming and Directory Interface)
7. **Data sources** are part of the
- (a) Input/Output APIs (java.io and java.nio)
 - (b) noSQL specification
 - (c) JDBC API
 - (d) EJB API
8. The Java API for XML (JAXP) does NOT provide
- (a) a parser to analyse the incoming XML document
 - (b) a conversion from .java to .xml files
 - (c) a binding tool to convert XML defined tags to Java objects
 - (d) support for XSLT transformations.
9. The Java SE security is based on the Sandbox model. Important components of this sandbox are (2 correct answers)
- [a] class loader
 - [b] security guard
 - [c] keystore
 - [d] byte-code verifier
10. In order to **deploy Java applications** you need
- (a) a Java-enabled web server
 - (b) a licensed copy of the Oracle Java Development Kit
 - (c) a Linux or UNIX workstation with a permanent link to the Internet
 - (d) to compile the application components into a .class format, optionally packaged into a JAR file.

11. JavaScript
- (a) is an extension of the standard Java libraries, to create web applications
 - (b) is a Java application activated via the Windows Start button
 - (c) is not at all based on Java
 - (d) is used to bypass the Java security model
12. A **pluggable** look and feel GUI for any OS platform can be created with the (2 correct answers)
- [a] Swing API
 - [b] Abstract Windowing Toolkit (AWT) API
 - [c] PnP (Plug and Play) API
 - [d] Standard Widget Toolkit (SWT) API
13. Java annotations can be used to (2 correct answers):
- [a] describe compiler directives
 - [b] prepare the integration with other non-Java languages
 - [c] generate additional class files
 - [d] generate performance reports
14. A visual application builder tool can analyze how Java beans work, by using
- (a) the event delegation mechanism
 - (b) persistence
 - (c) method customization
 - (d) introspection
15. Java **servlets** are
- (a) service routines for database access
 - (b) secure applications
 - (c) server side programs, an alternative to CGI scripts
 - (d) special applications, used for calling operating system services.

16. A **Java Server Page** (JSP) is compiled into
- (a) a server module
 - (b) a Java application
 - (c) a servlet
 - (d) a scriptlet
17. The **EJB specification** architecture defines (2 correct answers)
- [a] Transactional components
 - [b] Client side security and encryption
 - [c] Distributed object components
 - [d] a MVC (model-view-controller) architecture
18. The **Java Connector Architecture** (JCA) is used to
- (a) connect a non-Java client with a servlet
 - (b) define the standard naming conventions for peer to peer connections
 - (c) standardise the integration with Enterprise Information Systems
 - (d) monitor the performance for distributed applications
19. Applications in a **Java EE** architecture
- (a) are typically based on web components and Enterprise Java Beans
 - (b) must be created via a Java IDE
 - (c) can run on different machines, but only with the same Operating System
 - (d) need no runtime environment
20. What is NOT true about the **Java ME specification**
- (a) Java ME defines a special K Virtual Machine in the reference implementation
 - (b) Java ME is limited to devices with less than 1 MB of memory
 - (c) Java ME contains GUI support
 - (d) Java ME supports remote access via RMI

EVALUATION.

Here are the correct answers to all questions:

1. a c
2. a c e
3. b
4. c
5. d
6. b
7. c
8. b
9. a d
10. d
11. c
12. a d
13. a c
14. d
15. c
16. c
17. a c
18. c
19. a
20. b

Give yourself 1 point for each correctly answered question (for questions with multiple solutions, this means that **every** correct answer should have been indicated).

If your score is more than 80%, than this course is probably not useful for you any more. If you also have the necessary OO background, you are ready to start the [Java programming](#) course.

When you have a score between 50% and 80%, you already know some of the concepts, but you will still learn a lot in the [Java concepts](#) course.

When your score is less than 50%, we strongly suggest you follow the [Java concepts](#) course.