

*Test Bank for Java Illuminated 6th
Edition by Anderson*

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Multiple Choice

1. Which of the following is *not* a hexadecimal digit?

- A) 0
- B) 9
- C) A
- D) F
- E) G

Ans: E

Complexity: Easy

Ahead: Data Representation

Subject: Chapter 1

Title: Introduction to Programming and the Java Language

Taxonomy: Analysis

2. The binary number *1010* is equivalent to which hexadecimal number?

- A) A
- B) B
- C) C
- D) D
- E) 9

Ans: A

Complexity: Easy

Ahead: Data Representation

Subject: Chapter 1

Title: Introduction to Programming and the Java Language

Taxonomy: Analysis

3. What does JVM stand for?

- A) Java Virtual Memory
- B) Job Virtual Machine
- C) Java Virtual Mode
- D) Java Veritable Machine
- E) Java Virtual Machine

Ans: E

Complexity: Easy

Ahead: Programming Languages

Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

4. What is the name of the Java compiler?

- A) java
- B) javac
- C) compiler
- D) cc
- E) jc

Ans: B
Complexity: Easy
Ahead: An Introduction to Programming
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

5. When you successfully compile the file *Hi.java*, the file _____ is created.

- A) Hi
- B) Hi.javac
- C) Hi.class
- D) class
- E) Hi.java

Ans: C
Complexity: Moderate
Ahead: An Introduction to Programming
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Application

6. You have successfully compiled the file *Hi.java*. How do you run the corresponding program from the command line?

- A) java Hi.java
- B) java Hi.class
- C) java Hi
- D) Hi
- E) Hi.class

Ans: C
Complexity: Moderate
Ahead: An Introduction to Programming
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Application

7. Which of the following companies introduced Java?

- A) Microsoft
- B) IBM
- C) Sun Microsystems (now Oracle)
- D) AT&T
- E) MIT

Ans: C
Complexity: Moderate
Ahead: Programming Languages
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Application

True/False

1. True or False? Main memory is made of DRAM.

Ans: True
Complexity: Easy
Ahead: Basic Computer Concepts
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

2. True or False? A CPU rated at 1 GHz is capable of executing 1 million instructions per second.

Ans: False
Complexity: Easy

Ahead: Basic Computer Concepts
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

3. True or False? A single bit can store one value, either a 0 or a 1.

Ans: True
Complexity: Easy
Ahead: Basic Computer Concepts
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

4. True or False? Cache memory is hardware.

Ans: True
Complexity: Easy
Ahead: Basic Computer Concepts
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

5. True or False? Binary numbers are composed of 0s and 1s.

Ans: True
Complexity: Easy
Ahead: Data Representation
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

6. True or False? The base for hexadecimal numbers is 15.

Ans: False
Complexity: Easy
Ahead: Data Representation
Subject: Chapter 1

Title: Introduction to Programming and the Java Language
Taxonomy: Recall

7. True or False? Java is a high-level language.

Ans: True
Complexity: Easy
Ahead: Programming Languages
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

8. True or False? Java is an object-oriented language.

Ans: True
Complexity: Easy
Ahead: Programming Languages
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

Fill-in-the-Blank

1. CPU stands for _____.

Ans: central processing unit
Complexity: Easy
Ahead: Basic Computer Concepts
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

2. A byte contains _____ bits.

Ans: 8
Complexity: Easy

Ahead: Basic Computer Concepts
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

3. DRAM stands for _____.

Ans: dynamic random access memory
Complexity: Easy
Ahead: Basic Computer Concepts
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

4. URL stands for _____.

Ans: uniform resource locator
Complexity: Easy
Ahead: Basic Computer Concepts
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

5. Unicode is a world standard to represent _____.

Ans: characters
Complexity: Easy
Ahead: Data Representation
Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

6. The _____ format allows for the compression and aggregation of multiple Java files into one.

Ans: JAR
Complexity: Easy
Ahead: An Introduction to Programming

Subject: Chapter 1
Title: Introduction to Programming and the Java Language
Taxonomy: Recall

Essay

1. Compare the causes of compiler, run-time, and logic errors.

Ans: Compiler errors arise from incorrect language syntax or misspellings. Run-time errors result from incorrect use of classes. Logic errors arise from incorrect program design or incorrect implementation of the design.

Complexity: Difficult

Ahead: An Introduction to Programming

Subject: Chapter 1

Title: Introduction to Programming and the Java Language

Taxonomy: Analysis

2. How would you convert a binary number to a decimal number?

Ans: Multiply each digit in the binary number by $2^{\text{position}-1}$ and add all these values; count the rightmost position as position 1 and move left through the binary number.

Complexity: Easy

Ahead: Data Representation

Subject: Chapter 1

Title: Introduction to Programming and the Java Language

Taxonomy: Application

3. Give two examples of operating systems.

Ans: Windows and Unix are two examples of operating systems.

Complexity: Easy

Ahead: Basic Computer Concepts

Subject: Chapter 1

Title: Introduction to Programming and the Java Language

Taxonomy: Analysis

4. List the digits and characters used in hexadecimal representation.

Ans: Digits 0 to 9 and characters A to F are used in hexadecimal representation.

Complexity: Easy

Ahead: Data Representation

Subject: Chapter 1

Title: Introduction to Programming and the Java Language

Taxonomy: Recall

5. What does it mean for a program to be readable?

Ans: Someone else should be able to read your program and figure out what it does and how it does it.

Complexity: Moderate

Ahead: Introduction

Subject: Chapter 1

Title: Introduction to Programming and the Java Language

Taxonomy: Recall

6. Why would writing readable code help advance your career?

Ans: Writing readable code allows someone else to take over the maintenance of your program while you move on to bigger and better responsibilities.

Complexity: Moderate

Ahead: Introduction

Subject: Chapter 1

Title: Introduction to Programming and the Java Language

Taxonomy: Application

7. Convert 162 into a binary number. Show your work.

Ans:

$$2^7 = 128; 162 - 128 = 34$$

$$2^5 = 32, \text{ and } 2^1 = 2, \text{ so}$$

$$2^7 * 1 + 2^6 * 0 + 2^5 * 1 + 2^4 * 0 + 2^3 * 0 + 2^2 * 0 + 2^1 * 1 + 2^0 * 0 = 1010\ 0010$$

Complexity: Moderate

Ahead: Data Representation

Subject: Chapter 1

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Taxonomy: Application

8. From the command line, how do you check which version you have for your Java compiler?

Ans: `javac -version`

Complexity: Moderate

Ahead: An Introduction to Programming

Subject: Chapter 1

Title: Introduction to Programming and the Java Language

Taxonomy: Recall