Chapter 1 - Let's Start

Answers

1. A

   This order is mandatory, first package declaration, then import statement(s), then class declaration(s). A source file does not need to have a package declaration or import statement(s), but if it does, this order must be kept.

2. B

   An application requires a main method, whereas an applet does not require one. An applet can contain a main method though, this way it can function as an application as well if that is needed. This main method would only be used when the program is used as an application. When the program is used as an applet the browser's JVM would not call the main method, but instead would called the series of methods starting with init(), start(), etc.

3. A

   The java.lang package is automatically included in all java source code files.

4. A

   The path environment variable points to a directory that contains various files and programs needed to develop Java programs. For example, this directory holds the javac.exe program, which is needed to compile the code, and the java.exe program, which is used to run the program.

5. A

   The javadoc program is used to create API documentation for any java programs. When you run javadoc, certain basic things will automatically be added to the API documentation created. In order to

make this documentation more meaningful, you can add your own comments, which you place between a /** and a */ Note that this is slightly different from a regular block of comments, which starts with /* and ends with */.

6. E

   Each java file is compiled into a java byte code file, in other words a class file. This class file can be run on different platforms, each having their own specific JVM. Each JVM translates the class file into machine language that its own operating system can understand, and then runs the program.

7. B

   The Java Language is the language that you use to write your Java programs. The JDK contains many classes that you can use, and programs to compile, verify and run the Java programs that you write. The JDK is not needed to write the program, but is needed to compile and run the program.

8. B

   An int variable in java is always 32 bit, regardless of the operations system

9. B

   An int variable in java is always 32 bit, regardless of the compiler.

10. B

    An int variable in java is always 32 bit, regardless of the JVM used.

11. A

    The Java Language is the language that you use to write your utility programs. The JDK contains many classes that you can use, and programs to compile, verify and run the Java programs that you write.

12. B

    Initially the Java language was popular for its applets, which run on

the Internet. The popularity of Java has grown since then, and Java is now known for its ability to allow one program to be written that can be run on many different platforms, not just on the Internet.

13. E

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14. B

    The Java Language is the language that you use to write your programs. The JDK contains many classes that you can use, and programs to compile, verify and run the Java programs that you write.

15. A

    If you run a Java program that uses AWT it may look different on different platforms, since its classes use the GUI components of the operating system.

16. A,B,C

    Each different platform has its own specific JVM. The JVM is actually a program itself. Each JVM knows how to read files that are in compiled byte code, and knows how to convert them to machine code and run them on its own platform.

    The JVM can come built into the computer as part of the computer's hardware, or it can be added as software. When the JVM comes as hardware, it is saved in the ROM of the computer or device.

    Internet Explorer is a browser program, which can work with a JVM to allow Java applets and other Java programs to work with it.

17. A

    This system-level thread is called the Garbage Collector, which runs all the time as a separate thread in the background.

18. A,B,C

The java source code files are converted to java byte code files, which are class files. When the program is run, the JVM takes the class file, checks it, then converts it to machine code and runs the program. The specific JVM for each operating system knows how to run the program properly to run on its system.

19. A

The old JVM versions read and translated the byte code files line by line, which slowed down the program. The new Hot Spot JVM can read and translate code that is usaed more than once at the same time, and not just line by line, and therefore runs the programs much quicker.

20. None

Neither answer is true, the JVM needs to be installed to the browser.

21. B

A JVM can either be software or it can be a chip that has the JVM already burned into it as part of the hardware.

22. A

This is something that already has been done. There is a software that transforms code written in ADA to Java.

23. A

Declaring a class using the package statement means to put the line "package *package_name*" on top of the source code file.

24. A, B, C, D

All of these statements are true.

25. A

When compiling a class, if there are other classes used in the file that have not been compiled yet then they will automatically be compiled at this time.

26. A

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