Core Java Descriptive Question (Chapters 1-5)

1. What is a compiler?

ans: A compiler is a special program that translates a programming language's source code into machine code, bytecode or another programming language.

2. Who invented Java? Which company owns Java now?

ans: Java was invented by a team led by *James Gosling at Sun Microsystems in 1991*. Originally called Oak, it became Java in 1995 when it was redesigned for developing Internet applications. Oracle bought Sun and *Oracle now owns Java*.

3. What does JDK stand for?

ans: JDK in Java is an abbreviation for *Java Development Kit*. It is a bundle of software development tools and supporting libraries combined with the Java Runtime Environment (JRE) and Java Virtual Machine (JVM).

4. What does IDE stand for?

ans: An *integrated development environment (IDE)* is a software application that helps programmers develop software code efficiently.

5. What is a keyword? List some Java keywords.

ans: In Java, a keyword is a word with a predefined meaning in Java programming language syntax. Reserved for Java, keywords may not be used as identifiers for naming variables, classes, methods or other entities.

   a. Access modifiers – private, protected, public.

   b. Class, method, variable modifiers– abstract, class, extends, final, implements, interface, native, new, static, strictfp, synchronized, transient, volatile.

   c. Flow control– break, case, continue, default, do, else, for, if, instanceof, return, switch, while.

   d. Package control– import, package.

   e. Primitive types– boolean, byte, char, double, float, int, long, short.

6. Is Java case-sensitive? What is the case for Java keywords?

ans: Yes, Java source code is case sensitive. Java keywords are always in lowercase.

7. What is the Java source filename extension and the Java bytecode filename extension?

ans: Java source file extension is *"java"*. Bytecode files generally have a *. class* extension.

8. Can Java run on any machine? What is needed to run Java on a computer?

ans: Java is designed to be platform-independent, meaning that it can run on various types of machines and operating systems.

Java Development Kit (JDK for short) is needed to run Java on a computer. The JDK also contains the Java Runtime Environment (or JRE) which is the core of a Java program

9. Which keyword is used to declare a constant variable?

ans: *final* keyword

10. What is "break"?

ans: The Java *break* statement is used to break loop or switch statement. It breaks the current flow of the program at specified condition.

11. What is String?

ans: In Java, string is basically an object that represents sequence of char values. An array of characters works same as Java string

String is a predefined class. The String type is not a primitive type. It is known as a reference type. String is array of characters.