# Lecture-2:

1. What is Byte Code?
2. What is JDK?
3. What is API?
4. How does Java Program Execute?
5. What are the purposes of Compiler and Interpreter?
6. What is the entry point of Java Program?
7. What is the difference between class and object?

Ans:

1. Bytecode in Java is an intermediate, platform-independent code generated by the Java compiler. It is executed by the Java Virtual Machine (JVM), allowing Java programs to run on any device with a JVM, regardless of the underlying hardware or operating system.
2. The **Java Development Kit (JDK)** is a software development environment used for building Java applications. It includes tools such as the Java compiler (javac), Java Runtime Environment (JRE), libraries, and other utilities required for writing, compiling, and running Java programs. The JDK is essential for developers to create Java applications.
3. The *application program interface (API), also known as library, contains predefined* classes and interfaces for developing Java programs
4. Java program executed following the steps:
   1. **Source code** (.java) is written in a code editor.
   2. The code is passed to the **compiler**, which checks for **errors**.
   3. If there are no errors, the compiler generates **bytecode** (.class file).
   4. The **Java Virtual Machine (JVM)** reads the bytecode and executes it.
5. public static void main(String[] args) is the entry point of java program.
6. A **class** is a blueprint or template that defines properties and behaviors (fields and methods) for objects. An **object** is an instance of a class, representing a specific entity that can hold data and use the class's methods.

# Lecture-8:

What is the value of *z* after the following code snippet?

*int a = 5;*

*int b = 7;*

*int z = (a++ + ++b) \* (--a - b);*

ans:

-39

Because: z = (5 + 8) \* (4 – 7) = -39

1. The for-each loop is used to iterate over:

a) Arrays only

b) Collections only

c) Both arrays and collections

d) Objects only

ans: c) Both arrays and collections

1. Which of the following data types can be used as the loop control variable in the for-each loop?

a) int

b) double

c) Object

d) Any data type compatible with the elements in the collection

ans: c) Object

1. Given the following code, what will be the value of result?

*int a = 10;*

*int b = 5;*

*boolean condition = true;*

*result = (condition) ? (a + b) : (a - b);*

*ans: 15*

# Lecture-9:

1. Which access modifier makes a method visible only within its own class?

(a) public

(b) protected

(c) private

(d) static

Ans: (c) private

1. What does the "void" keyword mean in a method declaration?

(a) The method returns nothing

(b) The method is private

(c) The method is static

(d) The method is abstract

Ans: (a) The method returns nothing

1. **Write the output of following program:**

**class** Counter2{

**static** **int** count=0;

Counter2(){

count++;

System.out.println(count);

}

**public** **static** **void** main(String args[]){

//creating objects

Counter2 c1=**new** Counter2();

Counter2 c2=**new** Counter2();

Counter2 c3=**new** Counter2();

}

}

Ans:

1

2

3

1. **Write the output of following program:**

class Student {

int rollno;

String name;

static String college = "JU";

static void change(String s1) {

college = s1;

}

Student(int r, String n) {

rollno = r;

name = n;

}

// method to display values

void display() {

System.out.println(rollno + " " + name + " " + college);

}

}

public class TestStaticMethod {

public static void main(String args[]) {

Student s1 = new Student(111, "Karan");

Student s2 = new Student(222, "Aryan");

Student.change("RU");

Student s3 = new Student(333, "Sonoo");

s1.display();

s2.display();

Student.change("DU");

s3.display();

}

}

Ans:

111 Karan RU

222 Aryan RU

333 Sonoo DU

s