Case 3:

Write your own program that explains the below.

 Variable Scope

 Modifier Types

 Storage Classes

**Program: Volume.java**

**package** work;

**import** java.util.Scanner; //importing scanner class from java.util package

**public** **class** Volume { // main class

**static** **int** *width* = 5; // static width(class level scope)

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

// **TODO** Auto-generated method stub

**int** length = 30; // method level variable scope

Scanner s = **new** Scanner(System.***in***); // Declare the object and initialize with predefined standard input object

System.***out***.print("Enter n value :"); // prints enter n value

**int** n = s.nextInt(); // read n value from user

s.close();

System.***out***.println(Volume.*width* + " "); // No Error because variable is accessible throughout class

System.***out***.println("Volume of pyramid of different height values are below"); // prints statement

**for** (**int** height = 5; height <= n; height++)// loop level scope

{

**int** volume = (length \* height \* *width*)/3; // calculate volume

System.***out***.println("Volume of pyramid : " + volume + " where height is " + height);// prints volume for given height

/\*

\* Volume.display(); System.out.print(Volume.width+" ");

\*/

}

}

**static** **void** display() {

System.***out***.print(Volume.*width* + " ");

// System.out.print(Volume.length+" "); Error because accessible only up to

// method

// System.out.print(Volume.height+" "); Error because accessible only up to

// Class

}

}

Output**:**

