	SCTR's PUNE INSTITUTE OF COMPUTER TECHNOLOGY PUNE - 411043		
	Department of Electronics & Telecommunication Engineering (E&TCE)		
	ASSESMENT YEAR: 2024-2025	CLASS: TE 7	BATCH:- N7
	SUBJECT: Advanced JAVA Programming		
	Assignment No: 6	**Roll No: 32402**	**Date: 02/04/2025**

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Batch: N7

Problem Statement:

Write a program to demonstrate the use of InetAddress class and its factory menthods.

Code:

```
import java.net.*;

public class Main {
   public static void main(String[] args) {
      try {

         // 1. Get the local host address
         InetAddress localHost = InetAddress.getLocalHost();
         System.out.println("1. Local Host Address: " + localHost);
         System.out.println("   Host Name: " + localHost.getHostName());
         System.out.println("   IP Address: " + localHost.getHostAddress());

         // 2. Get the IP address of a domain (e.g., www.google.com)
         InetAddress googleIP = InetAddress.getByName("www.google.com");
         System.out.println("\n2. Google IP Address: " + googleIP);

      //3. Get all IP addresses associated with a domain (useful for load balancing)
         InetAddress[] googleIPs = InetAddress.getAllByName("www.google.com");
         System.out.println("\n3. All IP Addresses of Google:");
         for (InetAddress ip : googleIPs) {
            System.out.println("   " + ip);
         }

         // 4. Get an InetAddress object using a raw IP address
         byte[] rawIP = {8, 8, 8, 8}; // Google's public DNS server
         InetAddress googleDNS = InetAddress.getByAddress(rawIP);
         System.out.println("\n4. InetAddress from Raw IP: " + googleDNS);

         // 5. Get an InetAddress object using a hostname and raw IP address
       InetAddress customAddress = InetAddress.getByAddress("customHost", rawIP);
       System.out.println("\n5. InetAddress with Hostname and IP: "+customAddress);
```

```
            // Additional Instance Methods
            System.out.println("\n6. Additional Instance Methods:");
          System.out.println("  Host Name: " + googleIP.getHostName());
          System.out.println("  IP Address: " + googleIP.getHostAddress());
          System.out.println("Is Loopback Address:"+localHost.isLoopbackAddress());
          System.out.println("Is Multicast Address:"+ googleIP.isMulticastAddress());

        }
      catch (UnknownHostException e)
 {
            System.out.println("Error: Unknown host! " + e.getMessage());
        }
    }
}
```

Output

Problems Servers Terminal Data Source Explorer Properties Console

<terminated> Main [Java Application] C:\Users\borse\.p2\pool\plugins\org.eclipse.justj.openjdk.

```
1. Local Host Address: Ashwini/192.168.1.102
   Host Name: Ashwini
   IP Address: 192.168.1.102

2. Google IP Address: www.google.com/142.251.42.68

3. All IP Addresses of Google:
   www.google.com/142.251.42.68

4. InetAddress from Raw IP: /8.8.8.8

5. InetAddress with Hostname and IP: customHost/8.8.8.8

6. Additional Instance Methods:
   Host Name: www.google.com
   IP Address: 142.251.42.68
   Is Loopback Address: false
   Is Multicast Address: false
```