Q4.You are given three IP addresses: 192.168.10.5, 172.20.15.1, and 8.8.8.8.

Identify the class of each IP address. Determine if it is private or public. Explain how NAT would handle a private IP when accessing the internet.

Class of each IP address

192.168.10.5

First octet: 192 → Class C (Private)

172.20.15.1

First octet: 172 → Class B (Private)

8.8.8.8

First octet: 8 → Class A (Public)

NAT

NAT is used to translate private IPs into public IPs before they can access the internet.

  A device with a private IP (192.168.10.5) wants to access Google.com.

  Router with NAT translates the private IP to a public IP assigned by the ISP.

  The request reaches Google's servers using the public IP.

  When Google responds, NAT translates the public IP back to the private IP and forwards the response to the original device.