

Analysis of the given Address

192.168.10.5 belongs to Class C Range: 192.0.0.0 – 223.255.255.255

It is a Private address since it is between 192.168.0.0 – 192.168.255.255

172.20.15.1 belongs to Class B Range: 128.0.0.0 – 191.255.255.255

It is a Private address since it is between 172.16.0.0 – 172.31.255.255

8.8.8.8 belongs to Class A Range: 1.0.0.0 – 126.0.0.0

It is a public address and it is Google's DNS Server ip address.

Network Address Translation (NAT) allows private IPs to access the internet by translating them into a public IP. When a device with a private IP (e.g., 192.168.10.5 or 172.20.15.1) sends a request to the internet, NAT (typically implemented in a router) replaces the private IP with a public IP and vice-versa. The router keeps track of active connections so that responses from the internet can be forwarded back to the correct internal device. This process ensures multiple devices in a local network can share a single public IP for internet access. It also ensures security since the private ip address is not leaked to the outside network.