

Program:

```
import socket

print("Enter 1 for URL to IP")
print("Enter 2 for IP to Hostname")
k = int(input("Enter Choice:"))

if k == 1 :
    URL = input("Enter URL:")
    print(socket.gethostbyname(URL))
else :
    IP = input("Enter IP:")
    print(socket.gethostbyaddr(IP))
```

Output:

```
Enter 1 for URL to IP
Enter 2 for IP to Hostname
Enter Choice:1
Enter URL:www.google.com
172.217.27.196
```

Assignment 8

Q1 What is DNS? What is the main purpose of DNS server?

Ans Domain Name System is a standard protocol that helps users discover websites using human readable address.

It lets you type the address of a website and automatically discovers the IP address of that website.

The main purpose of DNS server is that it maps every name to an IP address so that users can search data without IP address.

eg `www.google.com` - IP address is `142.250.77.68`

Q2 What are DNS zones?

Ans DNS zone is a distinct part of the domain namespace which is delegated to a legal entity. A DNS zone is a portion of the DNS namespace that is managed by a specific organization or administrator. A DNS zone is an administrative space which allows more granular control of DNS components such as authoritative name servers. The domain namespace is a hierarchical tree, with the DNS root domain at the top.

Q3 What is Round Robin DNS?

Ans Round Robin DNS is a load balancing technique where the balancing is done by a type of DNS server called authoritative name server rather than using a dedicated piece of load balancing hardware. It is used when a website has their content hosted on several redundant web servers, when IP address is queried, the server hands out a different address each time, operating on rotation. This is useful when redundant web servers are geographically separated.