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Assignment 18

Title : DNS lookup

Problem Statement : Write a program for DNS lookup Given an IP address input, it should return URL and vice versa.

Requirements:
Fedora 20 with Pentium IV, and other 1GB RAM, 120 GB HDD, Monitor, Keyboard, Mouse, Eclipse IDE, Wireshark Packet Analyser tool.

Theory:

Domain Name System:
The domain name system (DNS) translates Internet domain and host names to IP addresses and vice versa.
On the Internet, DNS automatically converts between the names we type in our web browser address bar to the IP addresses of web servers hosting their sites.
Larger corporations also use DNS to manage their own company intranet.
Home networks use DNS when accessing the internet but do not use it for managing the names of home computers.

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How DNS works:

DNS is client / server network communication system

DNS clients send requests to and receive responses from DNS servers.

Requests: containing the name, that result in a IP address being returned from the server, are called forward DNS lookups.

Requests containing an IP address and resulting in a name, called reverse DNS lookups are also supported.

DNS implements a distributed database to store this name and last-known address information for all public hosts on Internet.

DNS additionally includes support for caching requests and for redundancy.

Most network operating systems support configuration of primary, secondary and tertiary DNS servers, each of which can service initial requests from clients.

DNS is a TCP/IP protocol used on different platforms. The domain name space is divided into different sections.

1. Generic domains
2. Country domains
3. Inverse domains

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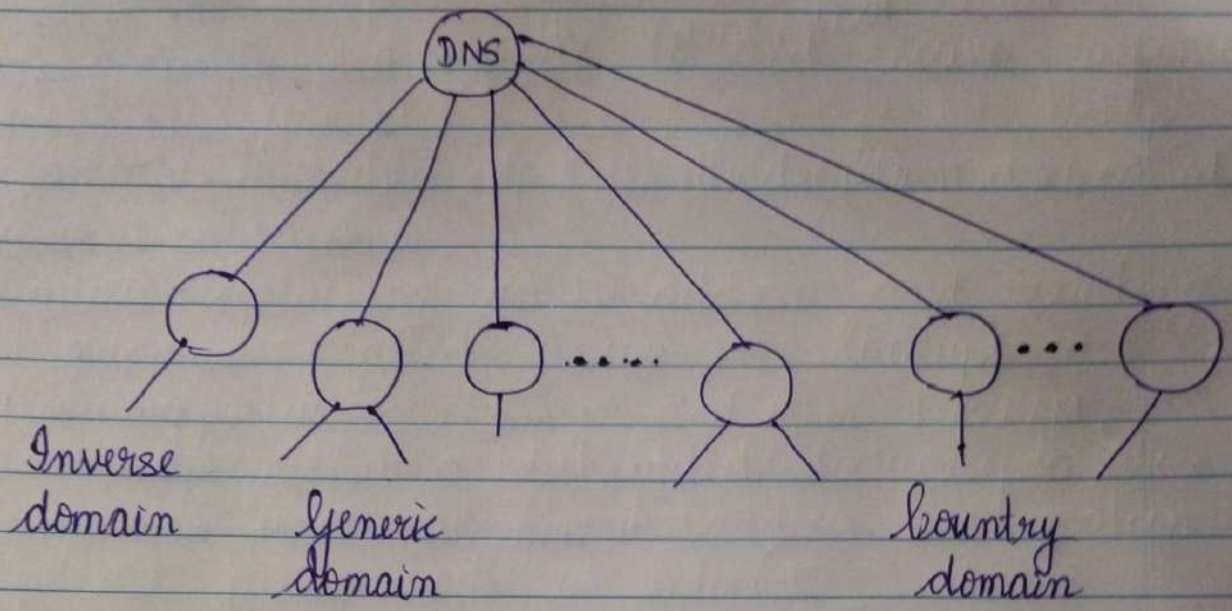
Following diagram represents the same



Conclusion:

Successfully implemented the program for DNS looking by writing a JAVA program.

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