Iterative dns query

Dns record class

import java.util.ArrayList;

import java.util.List;

public class DNSRecord {

private String domain;

private String ipAddress;

public DNSRecord(String domain, String ipAddress) {

this.domain = domain;

this.ipAddress = ipAddress;

}

public String getDomain() {

return domain;

}

public String getIpAddress() {

return ipAddress;

}

}

import java.util.ArrayList;

import java.util.List;

public class IterativeDNSQuery {

private List<DNSRecord> dnsRecords;

public IterativeDNSQuery() {

dnsRecords = new ArrayList<>();

dnsRecords.add(new DNSRecord("example.com", "93.184.216.34"));

dnsRecords.add(new DNSRecord("example.org", "2606:2800:220:1:248:1893:25c8:1946"));

}

public String findIpAddress(String domain) {

for (DNSRecord record : dnsRecords) {

if (record.getDomain().equals(domain)) {

return record.getIpAddress();

}

}

return "Not found";

}

public static void main(String[] args) {

IterativeDNSQuery query = new IterativeDNSQuery();

System.out.println("example.com: " + query.findIpAddress("example.com"));

System.out.println("example.org: " + query.findIpAddress("example.org"));

System.out.println("google.com: " + query.findIpAddress("google.com"));

}

}

RECURSIVE DNS

class DNSRecord {

private String domain;

private String ipAddress;

public DNSRecord(String domain, String ipAddress) {

this.domain = domain;

this.ipAddress = ipAddress;

}

public String getDomain() {

return domain;

}

public String getIpAddress() {

return ipAddress;

}

}

public class RecursiveDNSQuery {

private DNSRecord[] dnsRecords;

public RecursiveDNSQuery() {

// Initialize the DNS records

dnsRecords = new DNSRecord[5];

dnsRecords[0] = new DNSRecord("example.com", "93.184.216.34");

dnsRecords[1] = new DNSRecord("example.org", "2606:2800:220:1:248:1893:25c8:1946");

dnsRecords[2] = new DNSRecord("google.com", "93.184.216.35");

dnsRecords[3] = new DNSRecord("linkedin.com", "192.0.2.1");

dnsRecords[4] = new DNSRecord("facebook.com", "203.0.113.1");

}

public String findIpAddress(String domain, int index) {

if (index >= dnsRecords.length) {

return "Not found";

}

if (dnsRecords[index].getDomain().equals(domain)) {

return dnsRecords[index].getIpAddress();

}

return findIpAddress(domain, index + 1);

}

public static void main(String[] args) {

RecursiveDNSQuery query = new RecursiveDNSQuery();

System.out.println("example.org: " + query.findIpAddress("example.org", 0));

System.out.println("example.net: " + query.findIpAddress("google.com", 0));

System.out.println("example.io: " + query.findIpAddress("nothing.io", 0));

System.out.println("example.com: " + query.findIpAddress("example.com", 0));

System.out.println("example.com: " + query.findIpAddress("daraz.com.bd", 0));

}

}

IMpliment with BFS

import java.util.LinkedList;

import java.util.Queue;

public class RecursiveDNSQuery {

private DNSRecord[] dnsRecords;

public RecursiveDNSQuery() {

dnsRecords = new DNSRecord[5];

dnsRecords[0] = new DNSRecord("example.com", "93.184.216.34");

dnsRecords[1] = new DNSRecord("example.org", "2606:2800:220:1:248:1893:25c8:1946");

dnsRecords[2] = new DNSRecord("google.com", "93.184.216.35");

dnsRecords[3] = new DNSRecord("linkedin.com", "192.0.2.1");

dnsRecords[4] = new DNSRecord("facebook.com", "203.0.113.1");

}

public String findIpAddress(String domain) {

Queue<Integer> queue = new LinkedList<>();

queue.add(0);

while (!queue.isEmpty()) {

int index = queue.poll();

if (index >= dnsRecords.length) {

return "Not found";

}

if (dnsRecords[index].getDomain().equals(domain)) {

return dnsRecords[index].getIpAddress();

}

queue.add(index + 1);

}

return "Not found";

}

public static void main(String[] args) {

RecursiveDNSQuery query = new RecursiveDNSQuery();

System.out.println("example.org: " + query.findIpAddress("example.org"));

System.out.println("example.net: " + query.findIpAddress("google.com"));

System.out.println("example.io: " + query.findIpAddress("nothing.io"));

System.out.println("example.com: " + query.findIpAddress("example.com"));

System.out.println("example.com: " + query.findIpAddress("daraz.com.bd"));

}

}