

NETWORK PROGRAMMING LAB

LAB 6

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Q)Program to implement all HTTP methods

CODE -

```
import java.util.*;
import java.io.*;
import java.net.HttpURLConnection;
import java.net.MalformedURLException;
import java.net.URL;
import java.net.URLConnection;

public class HTTPMethods {

    public static void main(String[] args) throws Exception {

        // TODO Auto-generated method stub\

        Scanner sc =new Scanner(System.in);

        System.out.println("Enter URL: ");

        String s=sc.nextLine();

        URL url = new URL(s);

        int ch;

        while(true)

        {

            System.out.println("Enter choice \n 1.GET \n 2. HEAD\n 3.POST \n 4. PUT \n
5.DELETE \n 6.CONNECT \n 7.OPTIONS \n 8.TRACE \n 9.EXIT ");

            ch=sc.nextInt();

            switch(ch)

            {
```

```
case 1 :  
    GET(url);  
    break;  
case 2 :  
    HEAD(url);  
    break;  
case 3 :  
    POST(url);  
    break;  
case 4 :  
    PUT(url);  
    break;  
case 5 :  
    DELETE(url);  
    break;  
case 6 :  
    CONNECT(url);  
    break;  
case 7 :  
    OPTIONS(url);  
    break;  
case 8 :  
    TRACE(url);  
    break;  
case 9: System.exit(0);  
break;  
default: System.out.println("Invalid choice");  
break;  
}  
}
```

```
}
```

```
static void TRACE(URL url) throws IOException{
```

```
    // TODO Auto-generated method stub
```

```
    HttpURLConnection con = (HttpURLConnection) url.openConnection();
```

```
    con.setRequestMethod("TRACE");
```

```
    BufferedReader in = new BufferedReader(new InputStreamReader(
```

```
        con.getInputStream()));
```

```
    String inputLine;
```

```
    while ((inputLine = in.readLine()) != null)
```

```
    {
```

```
        System.out.println(inputLine);
```

```
    }
```

```
    in.close();
```

```
}
```

```
static void OPTIONS(URL url) throws IOException {
```

```
    // TODO Auto-generated method stub
```

```
    HttpURLConnection con = (HttpURLConnection) url.openConnection();
```

```
    con.setRequestMethod("OPTIONS");
```

```
    BufferedReader in = new BufferedReader(new InputStreamReader(
```

```
        con.getInputStream()));
```

```
    String inputLine;
```

```
    while ((inputLine = in.readLine()) != null)
```

```
    {
```

```
        System.out.println(inputLine);
```

```
    }
```

```
    in.close();
```

```
}
```

```
static void CONNECT(URL url) throws IOException{  
    // TODO Auto-generated method stub  
    HttpURLConnection con = (HttpURLConnection) url.openConnection();  
    con.setRequestMethod("CONNECT");  
    BufferedReader in = new BufferedReader(new  
    InputStreamReader( con.getInputStream()));  
    String inputLine;  
    while((inputLine = in.readLine()) != null) {  
        System.out.println(inputLine);  
    }  
  
    in.close();  
  
}
```

```
static void GET(URL url) throws IOException {  
    // TODO Auto-generated method stub  
    //URL url=new URL("https://vitap.ac.in/");  
    HttpURLConnection con = (HttpURLConnection) url.openConnection();  
    con.setRequestMethod("GET");  
    BufferedReader in = new BufferedReader(new InputStreamReader(  
        con.getInputStream()));  
    String inputLine;  
    while ((inputLine = in.readLine()) != null)  
    {  
        System.out.println(inputLine);  
    }  
    in.close();  
}
```

```
}
```

```
static void PUT(URL url)throws IOException {  
    // TODO Auto-generated method stub  
    HttpURLConnection con = (HttpURLConnection) url.openConnection();  
    con.setRequestMethod("PUT");  
    BufferedReader in = new BufferedReader(new InputStreamReader(  
        con.getInputStream()));  
    String inputLine;  
    while ((inputLine = in.readLine()) != null)  
    {  
        System.out.println(inputLine);  
    }  
  
    in.close();  
  
}
```

```
static void POST(URL url)throws IOException {  
    // TODO Auto-generated method stub  
    HttpURLConnection con = (HttpURLConnection) url.openConnection();  
    con.setRequestMethod("POST");  
    BufferedReader in = new BufferedReader(new InputStreamReader(  
        con.getInputStream()));  
    String inputLine;  
    while ((inputLine = in.readLine()) != null)  
    {  
        System.out.println(inputLine);  
    }  
  
    in.close();  
  
}
```

```

static void HEAD(URL url) throws IOException{
    // TODO Auto-generated method stub
    HttpURLConnection con = (HttpURLConnection) url.openConnection();
    con.setRequestMethod("HEAD");
    BufferedReader in = new BufferedReader(new InputStreamReader(
        con.getInputStream()));
    String inputLine;
    while ((inputLine = in.readLine()) != null)
    {
        System.out.println(inputLine);
    }in.close();
}

static void DELETE(URL url)throws IOException {
    // TODO Auto-generated method stub
    HttpURLConnection con = (HttpURLConnection) url.openConnection();
    con.setRequestMethod("DELETE");
    BufferedReader in = new BufferedReader(new InputStreamReader(
        con.getInputStream()));
    String inputLine;
    while ((inputLine = in.readLine()) != null)
    {
        System.out.println(inputLine);
    }

    in.close();

}

}

```

OUTPUT –

```

Command Prompt - java HTTPMethods
Microsoft Windows [Version 10.0.19042.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Sreenidhi>cd Desktop
C:\Users\Sreenidhi\Desktop>javac HTTPMethods.java
C:\Users\Sreenidhi\Desktop>java HTTPMethods
Enter URL:
https://vitap.ac.in/
Enter choice
1.GET
2.HEAD
3.POST
4.PUT
5.DELETE
6.CONNECT
7.OPTIONS
8.TRACE
9.EXIT
1
<!DOCTYPE html>
<html lang="en-US" class="no-js no-svg">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<meta name="facebook-domain-verification" content="18yhs3zzclrojfwhzlee488y2mf" />

<link rel="profile" href="http://gmpg.org/xfn/11">

<meta http-equiv="X-UA-Compatible" content="IE=edge">
<script>(function(html){html.className = html.className.replace(/\bno-js\b/, 'js')})(document.documentElement);</script>
<title>VIT-AP &#8211; Apply Knowledge. Improve Life</title>
<link rel="dns-prefetch" href="//s.w.org" />
<link rel="alternate" type="application/rss+xml" title="VIT-AP &#8211; Feed" href="https://vitap.ac.in/feed/" />
<link rel="alternate" type="application/rss+xml" title="VIT-AP &#8211; Comments Feed" href="https://vitap.ac.in/comments/feed/" />
<script type="text/javascript">
    window._wpmojiSettings = {"baseUrl":"https://s.w.org/images/core/emoji/13.0.0/72x72/", "ext":".png", "svgUrl":"https://s.w.org/images/core/emoji/13.0.0/svg/", "svgExt":".svg", "source":{"concatemoji":"https://vitap.ac.in/wp-includes/js/wp-emoji-release.min.js?ver=5.5.1"};
    if(function(e,a,t){var r,n,o,i,p=a.createElement("canvas"),s=p.getContext&&p.getContext("2d");function c(e,t){var a=String.fromCharCode;s.clearRect(0,0,p.width,p.height),s.fillText(a.apply(this,e),0,0);var r=p.toDataURL();return s.clearRect(0,0,p.width,p.height),s.fillText(a.apply(this,t),0,0),r==p.toDataURL()?function l(e){if(!s.fillText)return l;switch(s.textBaseline="top",s.font="600 32px Arial",e){case"flag":return l([127987,65039,8209,9895,65039],[127987,65039,8209,9895,65039])&&l(c([55356,56826,55356,56819]),[55356,56826,8203,55356,56819])&&l(c([55356,57332,56128,56422,56128,56418,56128,56421,56128,56430,56423,56128,56423,8203,56128,56423,8203,56128,56447]));case"emoji":return l([55357,56424,8205,55356,57212],[55357,56424,8203,55356,57212])}return l(function d(e){var t=a.createElement("script");t.src=e,t.defer=t.type="text/javascript",a.getElementsByTagName("head")[0].appendChild(t)}for(i=Array("flag","emoji"),t.supports=(!everything:!0,everythingExceptFlag:!0),o=0;o<i.length;o++)t.supports[i[o]]=!l(i[o]),t.supports.everything=t.supports.everything&&t.supports[i[o]],"flag"!==i[o]&&t.supports.everythingExceptFlag;t.supports.everythingExceptFlag&&t.supports[i[o]]};t.supports.everythingExceptFlag&&t.supports.Flag,t.DOMReady=!1,t.readyCallback=function(){t.DOMReady=!0},t.supports.everything||(n=function(){t.readyCallback()},a.addEventListener?(a.addEventListener("DOMContentLoaded",n,!1),e.addEventListener("load",n,!1)):(e.attachEvent("onload",n),a.attachEvent("onreadystatechange",function(){t.DOMReady=!0,t.supports.everything}))},r=t.source||{}).concatemoji?d(r.concatemoji):r._wpmoji&&r._wpmoji&&d(r._wpmoji),d(r._wpmoji)})(window,document,window._wpmojiSettings);
</script>
<style type="text/css">

```

```

Command Prompt - java HTTPMethods
Enter choice
1.GET
2.HEAD
3.POST
4.PUT
5.DELETE
6.CONNECT
7.OPTIONS
8.TRACE
9.EXIT
3
<!DOCTYPE html>
<html lang="en-US" class="no-js no-svg">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<meta name="facebook-domain-verification" content="18yhs3zzclrojfwhzlee488y2mf" />

<link rel="profile" href="http://gmpg.org/xfn/11">

<meta http-equiv="X-UA-Compatible" content="IE=edge">
<script>(function(html){html.className = html.className.replace(/\bno-js\b/, 'js')})(document.documentElement);</script>
<title>VIT-AP &#8211; Apply Knowledge. Improve Life</title>
<link rel="dns-prefetch" href="//s.w.org" />
<link rel="alternate" type="application/rss+xml" title="VIT-AP &#8211; Feed" href="https://vitap.ac.in/feed/" />
<link rel="alternate" type="application/rss+xml" title="VIT-AP &#8211; Comments Feed" href="https://vitap.ac.in/comments/feed/" />
<script type="text/javascript">
    window._wpmojiSettings = {"baseUrl":"https://s.w.org/images/core/emoji/13.0.0/72x72/", "ext":".png", "svgUrl":"https://s.w.org/images/core/emoji/13.0.0/svg/", "source":{"concatemoji":"https://vitap.ac.in/wp-includes/js/wp-emoji-release.min.js?ver=5.5.1"};
    if(function(e,a,t){var r,n,o,i,p=a.createElement("canvas"),s=p.getContext&&p.getContext("2d");function c(e,t){var a=String.fromCharCode;s.clearRect(0,0,p.width,p.height),s.fillText(a.apply(this,e),0,0);var r=p.toDataURL();return s.clearRect(0,0,p.width,p.height),s.fillText(a.apply(this,t),0,0),r==p.toDataURL()?function l(e){if(!s.fillText)return l;switch(s.textBaseline="top",s.font="600 32px Arial",e){case"flag":return l([127987,65039,8209,9895,65039],[127987,65039,8203,9895,65039])&&l(c([55356,56826,55356,56819]),[55356,56826,8203,55356,56819])&&l(c([55356,57332,56128,56422,56128,56418,56128,56421,56128,56430,56423,56128,56423,8203,56128,56423,8203,56128,56447]));case"emoji":return l([55357,56424,8205,55356,57212])}return l(function d(e){var t=a.createElement("script");t.src=e,t.defer=t.type="text/javascript",a.getElementsByTagName("head")[0].appendChild(t)}for(i=Array("flag","emoji"),t.supports=(!everything:!0,everythingExceptFlag:!0),o=0;o<i.length;o++)t.supports[i[o]]=!l(i[o]),t.supports.everything=t.supports.everything&&t.supports[i[o]],"flag"!==i[o]&&t.supports.everythingExceptFlag;t.supports.everythingExceptFlag&&t.supports[i[o]]};t.supports.everythingExceptFlag&&t.supports.Flag,t.DOMReady=!1,t.readyCallback=function(){t.DOMReady=!0},t.supports.everything||(n=function(){t.readyCallback()},a.addEventListener?(a.addEventListener("DOMContentLoaded",n,!1),e.addEventListener("load",n,!1)):(e.attachEvent("onload",n),a.attachEvent("onreadystatechange",function(){t.DOMReady=!0,t.supports.everything}))},r=t.source||{}).concatemoji?d(r.concatemoji):r._wpmoji&&r._wpmoji&&d(r._wpmoji),d(r._wpmoji)})(window,document,window._wpmojiSettings);
</script>
<style type="text/css">
img.wp-smiley,
img.emoji {
    display: inline !important;
    border: none !important;
    box-shadow: none !important;
    height: 1em !important;
    width: 1em !important;
    margin: 0 .07em !important;
    vertical-align: -0.1em !important;
    background: none !important;

```

Q2) :Demonstration of Cache using Java

CODE –

import java.util.Deque;

import java.util.HashSet;

import java.util.LinkedList;

import java.util.Iterator;

public class Lab6b {

```

// store keys of cache
static Deque<Integer> dq;

// store references of key in cache
static HashSet<Integer> map;

// maximum capacity of cache
static int csize;

Lab6b(int n)
{
    dq = new LinkedList<>();
    map = new HashSet<>();
    csize = n;
}

public void refer(int x)
{
    if (!map.contains(x)) {
        if (dq.size() == csize) {
            int last = dq.removeLast();
            map.remove(last);
        }
    }
    else {

        int index = 0, i = 0;
        Iterator<Integer> itr = dq.iterator();
        while (itr.hasNext()) {
            if (itr.next() == x) {
                index = i;
                break;
            }
        }
    }
}

```



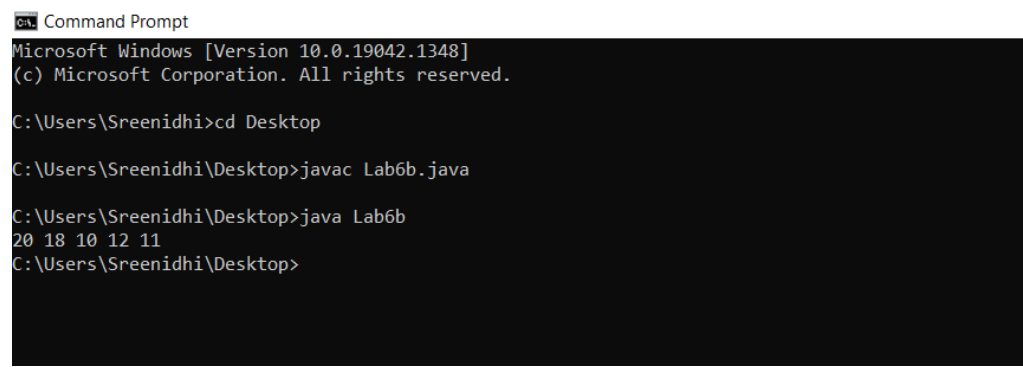
```

        }
        i++;
    }
    dq.remove(index);
}
dq.push(x);
map.add(x);
}

// display contents of cache
public void display()
{
    Iterator<Integer> itr = dq.iterator();
    while (itr.hasNext()) {
        System.out.print(itr.next() + " ");
    }
}
}

```

OUTPUT –



```

C:\> Command Prompt
Microsoft Windows [Version 10.0.19042.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Sreenidhi>cd Desktop

C:\Users\Sreenidhi\Desktop>javac Lab6b.java

C:\Users\Sreenidhi\Desktop>java Lab6b
20 18 10 12 11
C:\Users\Sreenidhi\Desktop>

```