Question 1: <https://github.com/Ruilin-Ma>

Question 2: 2.26.0

Question 3: 2.27.1  
Question 4: Between virtual and non-virtual environment, the python script returns different version of requests.

Question 5: 301 Moved Permanently; change the URL into <https://www.google.com>

Question 6: The code return for curl [**https://www.google.com/teapot** is 418](https://www.google.com/teapot%20is%20418). This code is return by either curl -i or curl -iL. If curl <http://www.google.com/teapot>, it will return **418 I'm a Teapot**

Question 7: #1 changed: The output changed from “<H3>Form Contents:</H3>

<P>No form fields.

<DL>

</DL>”

To “<H3>Form Contents:</H3>

<DL>

<DT>X: <i>&lt;type 'instance'&gt;</i>

<DD>MiniFieldStorage('X', 'Y')

</DL>”

#2 changed: In the section of **Shell Environment, there are two extra lines** “<DT> CONTENT\_LENGTH <DD> 3

<DT> CONTENT\_TYPE <DD> application/x-www-form-urlencoded”

The “-X post” method is useful when you are specifying a certain HTTP request method to the target URL. In this case, it will apply post

Question 8: https://raw.githubusercontent.com/Ruilin-Ma/CMPUT404-LAB01/main/requestVersion.py

millerma@Millers-MacBook-Pro Lab 1 % curl -i -X POST -d "X=Y" https://webdocs.cs.ualberta.ca/~hindle1/1.py

HTTP/1.1 200 OK

**Date**: Tue, 11 Jan 2022 05:33:15 GMT

**Server**: Apache/2.4.6 (CentOS)

**Connection**: close

**Transfer-Encoding**: chunked

**Content-Type**: text/html; charset=UTF-8

<H3>Current Working Directory:</H3>

/compsci/webdocs/hindle1/web\_docs

<H3>Command Line Arguments:</H3>

['/compsci/webdocs/hindle1/web\_docs/1.py']

<H3>Form Contents:</H3>

<DL>

<DT>X: <i>&lt;type 'instance'&gt;</i>

<DD>MiniFieldStorage('X', 'Y')

</DL>

<H3>Shell Environment:</H3>

<DL>

<DT> CONTENT\_LENGTH <DD> 3

<DT> CONTENT\_TYPE <DD> application/x-www-form-urlencoded

<DT> CONTEXT\_DOCUMENT\_ROOT <DD> /compsci/webdocs/hindle1/web\_docs

<DT> CONTEXT\_PREFIX <DD> /~hindle1

<DT> DOCUMENT\_ROOT <DD> /var/www/html

<DT> GATEWAY\_INTERFACE <DD> CGI/1.1

<DT> HTTPS <DD> on

<DT> HTTP\_ACCEPT <DD> \*/\*

<DT> HTTP\_HOST <DD> webdocs.cs.ualberta.ca

<DT> HTTP\_USER\_AGENT <DD> curl/7.77.0

<DT> PATH <DD> /usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin

<DT> QUERY\_STRING <DD>

<DT> REMOTE\_ADDR <DD> 174.3.244.206

<DT> REMOTE\_PORT <DD> 58216

<DT> REQUEST\_METHOD <DD> POST

<DT> REQUEST\_SCHEME <DD> https

<DT> REQUEST\_URI <DD> /~hindle1/1.py

<DT> SCRIPT\_FILENAME <DD> /compsci/webdocs/hindle1/web\_docs/1.py

<DT> SCRIPT\_NAME <DD> /~hindle1/1.py

<DT> SERVER\_ADDR <DD> 129.128.243.190

<DT> SERVER\_ADMIN <DD> helpdesk@cs.ualberta.ca

<DT> SERVER\_NAME <DD> webdocs.cs.ualberta.ca

<DT> SERVER\_PORT <DD> 443

<DT> SERVER\_PROTOCOL <DD> HTTP/1.1

<DT> SERVER\_SIGNATURE <DD> &lt;address&gt;Apache/2.4.6 (CentOS) Server at webdocs.cs.ualberta.ca Port 443&lt;/address&gt;

<DT> SERVER\_SOFTWARE <DD> Apache/2.4.6 (CentOS)

<DT> SSL\_TLS\_SNI <DD> webdocs.cs.ualberta.ca

<DT> UNIQUE\_ID <DD> Yd0Wmxno67YwLzD2Z@Z3zgAAAAw

</DL>

<H3>These environment variables could have been set:</H3>

<UL>

<LI>AUTH\_TYPE

<LI>CONTENT\_LENGTH

<LI>CONTENT\_TYPE

<LI>DATE\_GMT

<LI>DATE\_LOCAL

<LI>DOCUMENT\_NAME

<LI>DOCUMENT\_ROOT

<LI>DOCUMENT\_URI

<LI>GATEWAY\_INTERFACE

<LI>LAST\_MODIFIED

<LI>PATH

<LI>PATH\_INFO

<LI>PATH\_TRANSLATED

<LI>QUERY\_STRING

<LI>REMOTE\_ADDR

<LI>REMOTE\_HOST

<LI>REMOTE\_IDENT

<LI>REMOTE\_USER

<LI>REQUEST\_METHOD

<LI>SCRIPT\_NAME

<LI>SERVER\_NAME

<LI>SERVER\_PORT

<LI>SERVER\_PROTOCOL

<LI>SERVER\_ROOT

<LI>SERVER\_SOFTWARE

</UL>

In addition, HTTP headers sent by the server may be passed in the

environment as well. Here are some common variable names:

<UL>

<LI>HTTP\_ACCEPT

<LI>HTTP\_CONNECTION

<LI>HTTP\_HOST

<LI>HTTP\_PRAGMA

<LI>HTTP\_REFERER

<LI>HTTP\_USER\_AGENT

</UL>

<H3>What follows is a test, not an actual exception:</H3>

<H3>Traceback (most recent call last):</H3>

<PRE> File "/usr/lib64/python2.7/cgi.py", line 904, in test

g()

File "/usr/lib64/python2.7/cgi.py", line 902, in g

f()

File "/usr/lib64/python2.7/cgi.py", line 900, in f

exec "testing print\_exception() -- &lt;I&gt;italics?&lt;/I&gt;"

File "&lt;string&gt;", line 1

testing print\_exception() -- &lt;I&gt;italics?&lt;/I&gt;

^

<B>SyntaxError: invalid syntax

</B></PRE>

<H1>Second try with a small maxlen...</H1>

<H3>Current Working Directory:</H3>

/compsci/webdocs/hindle1/web\_docs

<H3>Command Line Arguments:</H3>

['/compsci/webdocs/hindle1/web\_docs/1.py']

<H3>Form Contents:</H3>

<P>No form fields.

<DL>

</DL>

<H3>Shell Environment:</H3>

<DL>

<DT> CONTENT\_LENGTH <DD> 3

<DT> CONTENT\_TYPE <DD> application/x-www-form-urlencoded

<DT> CONTEXT\_DOCUMENT\_ROOT <DD> /compsci/webdocs/hindle1/web\_docs

<DT> CONTEXT\_PREFIX <DD> /~hindle1

<DT> DOCUMENT\_ROOT <DD> /var/www/html

<DT> GATEWAY\_INTERFACE <DD> CGI/1.1

<DT> HTTPS <DD> on

<DT> HTTP\_ACCEPT <DD> \*/\*

<DT> HTTP\_HOST <DD> webdocs.cs.ualberta.ca

<DT> HTTP\_USER\_AGENT <DD> curl/7.77.0

<DT> PATH <DD> /usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin

<DT> QUERY\_STRING <DD>

<DT> REMOTE\_ADDR <DD> 174.3.244.206

<DT> REMOTE\_PORT <DD> 58216

<DT> REQUEST\_METHOD <DD> POST

<DT> REQUEST\_SCHEME <DD> https

<DT> REQUEST\_URI <DD> /~hindle1/1.py

<DT> SCRIPT\_FILENAME <DD> /compsci/webdocs/hindle1/web\_docs/1.py

<DT> SCRIPT\_NAME <DD> /~hindle1/1.py

<DT> SERVER\_ADDR <DD> 129.128.243.190

<DT> SERVER\_ADMIN <DD> helpdesk@cs.ualberta.ca

<DT> SERVER\_NAME <DD> webdocs.cs.ualberta.ca

<DT> SERVER\_PORT <DD> 443

<DT> SERVER\_PROTOCOL <DD> HTTP/1.1

<DT> SERVER\_SIGNATURE <DD> &lt;address&gt;Apache/2.4.6 (CentOS) Server at webdocs.cs.ualberta.ca Port 443&lt;/address&gt;

<DT> SERVER\_SOFTWARE <DD> Apache/2.4.6 (CentOS)

<DT> SSL\_TLS\_SNI <DD> webdocs.cs.ualberta.ca

<DT> UNIQUE\_ID <DD> Yd0Wmxno67YwLzD2Z@Z3zgAAAAw

</DL>

###########################################

HTTP/1.1 200 OK

**Date**: Tue, 11 Jan 2022 05:36:23 GMT

**Server**: Apache/2.4.6 (CentOS)

**Connection**: close

**Transfer-Encoding**: chunked

**Content-Type**: text/html; charset=UTF-8

<H3>Current Working Directory:</H3>

/compsci/webdocs/hindle1/web\_docs

<H3>Command Line Arguments:</H3>

['/compsci/webdocs/hindle1/web\_docs/1.py']

<H3>Form Contents:</H3>

<P>No form fields.

<DL>

</DL>

<H3>Shell Environment:</H3>

<DL>

<DT> CONTEXT\_DOCUMENT\_ROOT <DD> /compsci/webdocs/hindle1/web\_docs

<DT> CONTEXT\_PREFIX <DD> /~hindle1

<DT> DOCUMENT\_ROOT <DD> /var/www/html

<DT> GATEWAY\_INTERFACE <DD> CGI/1.1

<DT> HTTPS <DD> on

<DT> HTTP\_ACCEPT <DD> \*/\*

<DT> HTTP\_HOST <DD> webdocs.cs.ualberta.ca

<DT> HTTP\_USER\_AGENT <DD> curl/7.77.0

<DT> PATH <DD> /usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin

<DT> QUERY\_STRING <DD>

<DT> REMOTE\_ADDR <DD> 174.3.244.206

<DT> REMOTE\_PORT <DD> 58469

<DT> REQUEST\_METHOD <DD> GET

<DT> REQUEST\_SCHEME <DD> https

<DT> REQUEST\_URI <DD> /~hindle1/1.py

<DT> SCRIPT\_FILENAME <DD> /compsci/webdocs/hindle1/web\_docs/1.py

<DT> SCRIPT\_NAME <DD> /~hindle1/1.py

<DT> SERVER\_ADDR <DD> 129.128.243.190

<DT> SERVER\_ADMIN <DD> helpdesk@cs.ualberta.ca

<DT> SERVER\_NAME <DD> webdocs.cs.ualberta.ca

<DT> SERVER\_PORT <DD> 443

<DT> SERVER\_PROTOCOL <DD> HTTP/1.1

<DT> SERVER\_SIGNATURE <DD> &lt;address&gt;Apache/2.4.6 (CentOS) Server at webdocs.cs.ualberta.ca Port 443&lt;/address&gt;

<DT> SERVER\_SOFTWARE <DD> Apache/2.4.6 (CentOS)

<DT> SSL\_TLS\_SNI <DD> webdocs.cs.ualberta.ca

<DT> UNIQUE\_ID <DD> Yd0XV2k7kx-x2bg6irkR2wAAAAc

</DL>

<H3>These environment variables could have been set:</H3>

<UL>

<LI>AUTH\_TYPE

<LI>CONTENT\_LENGTH

<LI>CONTENT\_TYPE

<LI>DATE\_GMT

<LI>DATE\_LOCAL

<LI>DOCUMENT\_NAME

<LI>DOCUMENT\_ROOT

<LI>DOCUMENT\_URI

<LI>GATEWAY\_INTERFACE

<LI>LAST\_MODIFIED

<LI>PATH

<LI>PATH\_INFO

<LI>PATH\_TRANSLATED

<LI>QUERY\_STRING

<LI>REMOTE\_ADDR

<LI>REMOTE\_HOST

<LI>REMOTE\_IDENT

<LI>REMOTE\_USER

<LI>REQUEST\_METHOD

<LI>SCRIPT\_NAME

<LI>SERVER\_NAME

<LI>SERVER\_PORT

<LI>SERVER\_PROTOCOL

<LI>SERVER\_ROOT

<LI>SERVER\_SOFTWARE

</UL>

In addition, HTTP headers sent by the server may be passed in the

environment as well. Here are some common variable names:

<UL>

<LI>HTTP\_ACCEPT

<LI>HTTP\_CONNECTION

<LI>HTTP\_HOST

<LI>HTTP\_PRAGMA

<LI>HTTP\_REFERER

<LI>HTTP\_USER\_AGENT

</UL>

<H3>What follows is a test, not an actual exception:</H3>

<H3>Traceback (most recent call last):</H3>

<PRE> File "/usr/lib64/python2.7/cgi.py", line 904, in test

g()

File "/usr/lib64/python2.7/cgi.py", line 902, in g

f()

File "/usr/lib64/python2.7/cgi.py", line 900, in f

exec "testing print\_exception() -- &lt;I&gt;italics?&lt;/I&gt;"

File "&lt;string&gt;", line 1

testing print\_exception() -- &lt;I&gt;italics?&lt;/I&gt;

^

<B>SyntaxError: invalid syntax

</B></PRE>

<H1>Second try with a small maxlen...</H1>

<H3>Current Working Directory:</H3>

/compsci/webdocs/hindle1/web\_docs

<H3>Command Line Arguments:</H3>

['/compsci/webdocs/hindle1/web\_docs/1.py']

<H3>Form Contents:</H3>

<P>No form fields.

<DL>

</DL>

<H3>Shell Environment:</H3>

<DL>

<DT> CONTEXT\_DOCUMENT\_ROOT <DD> /compsci/webdocs/hindle1/web\_docs

<DT> CONTEXT\_PREFIX <DD> /~hindle1

<DT> DOCUMENT\_ROOT <DD> /var/www/html

<DT> GATEWAY\_INTERFACE <DD> CGI/1.1

<DT> HTTPS <DD> on

<DT> HTTP\_ACCEPT <DD> \*/\*

<DT> HTTP\_HOST <DD> webdocs.cs.ualberta.ca

<DT> HTTP\_USER\_AGENT <DD> curl/7.77.0

<DT> PATH <DD> /usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin

<DT> QUERY\_STRING <DD>

<DT> REMOTE\_ADDR <DD> 174.3.244.206

<DT> REMOTE\_PORT <DD> 58469

<DT> REQUEST\_METHOD <DD> GET

<DT> REQUEST\_SCHEME <DD> https

<DT> REQUEST\_URI <DD> /~hindle1/1.py

<DT> SCRIPT\_FILENAME <DD> /compsci/webdocs/hindle1/web\_docs/1.py

<DT> SCRIPT\_NAME <DD> /~hindle1/1.py

<DT> SERVER\_ADDR <DD> 129.128.243.190

<DT> SERVER\_ADMIN <DD> helpdesk@cs.ualberta.ca

<DT> SERVER\_NAME <DD> webdocs.cs.ualberta.ca

<DT> SERVER\_PORT <DD> 443

<DT> SERVER\_PROTOCOL <DD> HTTP/1.1

<DT> SERVER\_SIGNATURE <DD> &lt;address&gt;Apache/2.4.6 (CentOS) Server at webdocs.cs.ualberta.ca Port 443&lt;/address&gt;

<DT> SERVER\_SOFTWARE <DD> Apache/2.4.6 (CentOS)

<DT> SSL\_TLS\_SNI <DD> webdocs.cs.ualberta.ca

<DT> UNIQUE\_ID <DD> Yd0XV2k7kx-x2bg6irkR2wAAAAc

</DL>