

1. `curl --data "q=Lauren Slavin" http://search.vt.edu/search/pages.html`
`<!DOCTYPE html>`

```
<html lang="en">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<meta http-equiv="X-UA-Compatible" content="IE=edge" />
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
<title>Virginia Tech | Search - Web</title>
<link rel="shortcut icon" type="image/x-icon" href="//www.assets.cms.vt.edu/images/favicon.ico"
/>
<link rel="stylesheet" href="/search/assets/css/base.css" type="text/css" media="screen" />
<link rel="stylesheet" href="/search/assets/css/enhanced.css" type="text/css" media="screen" />
<script type="text/javascript"
    src="//www.assets.cms.vt.edu/jquery/archives/jquery-1.10.latest.min.js"></script>
<script type="text/javascript" src="/search/assets/js/search_utils.js"></script>
<script type="text/javascript" src="/search/assets/js/search_pages.js"></script>
</head>
<body>
<div class="vt_skip">
    <h2><a id="vt-skipto-menu">Skip Menu</a></h2>
    <ul>
        <li><a href="#vt-skipto-search">Skip to Search</a></li>
        <li><a href="#vt-skipto-results">Skip to Results</a></li>
    </ul>
</div>
<div id="container">
    <div id="header_container">
        <!-- BEGIN HEADER -->
<div id="header">
    <div id="vt_logo">
        <a id="vt_home_btn" title="Virginia Tech" href="http://www.vt.edu"></a>
    </div>
    <div id="vt_utilities">
        <ul id="vt_toplevels">
            <li><a href="http://www.vtnews.vt.edu">News</a></li>
            <li><a href="http://www.calendar.vt.edu">Calendar</a></li>
            <li><a href="http://www.givingto.vt.edu">Giving</a></li>
            <li><a href="http://www.lib.vt.edu">Libraries</a></li>
            <li><a href="http://maps.vt.edu">Maps &
                Locations</a></li>
            <li><a href="http://www.vt.edu/az_index/index.html">A to Z Index</a></li>
```

```

    </ul>
    <ul id="vt_student_tools">
        <li><a
href="https://banweb.banner.vt.edu/ssb/prod/twbkwbis.P_WWWLogin">Hokie
        Spa</a></li>
        <li><a href="https://scholar.vt.edu/portal">Scholar</a></li>
        <li><a href="https://my.vt.edu/">My VT</a></li>
    </ul>
    <ul id="vt_we_remember">
        <li><a href="http://www.weremember.vt.edu">We Remember</a></li>
    </ul>
</div>
</div>
<!-- END HEADER -->
</div>
<div id="content_container">
    <div id="content">
<div class="vt_skip">
    <a href="#vt-skipto-menu">Return to Skip Menu</a>
    <h2><a id="vt-skipto-search">Search</a></h2>
</div>
        <div id="vt_search_block">
            <form action="#" onSubmit="return executeQuery()" method="get"
name="vt_search_form" id="vt_header_search_form">
                <input type="text" maxlength="50" placeholder="Search pages
and people" name="q"
                value="Lauren Slavin" id="vt_search_box"
autocomplete="off"/>
                <button id="vt_go_button">
                    <span class="vt_skip">Search</span>
                </button>
            </form>
        </div>
        <div id="navigation">
            <ul>
                <li class="current"><a href="#">VT Web</a></li>
            </li>
            <a
href="people.html;jsessionid=6BF550F1774F4F660BDCF2F829F631AC.mt-prod-4?q=Lauren+
Slavin" id="vt-people-nav">People</a>
            </li>

```

```
        </ul>
    </div>
<div class="vt_skip">
    <a href="#vt-skipto-menu">Return to Skip Menu</a>
    <h2><a id="vt-skipto-results">Results</a></h2>
</div>

    <div id="results">
        <div id="vt_gcse_script">
<noscript>
    <div class="noscript">
        It looks like you have JavaScript turned off. See search results
        <a
href="http://www.google.com?cx=012042020361247179657:wmrvw9b99ug&cof=FORID:11&ie=
UTF-8&q=Lauren Slavin">here</a>.
        </div>
    </noscript>
    <div id="vt_gcse_results" class="gcse-searchresults-only" data-resultsetsize="7"
data-gname="vt_gcse_results">
    </div>
```

```

    </div>
    </div>
    <div id="rb_content">
        <h2>Mobile Search</h2>
        <p>
            Want to find something while you are on the go? You can now
            use VT
            search with your <a href="/search/m">mobile</a> device.
        </p>

        <h2>Search Tips</h2>
        <ul>
            <li>
                <p>
                    <strong>athletics sports</strong>: Finds all documents
                    that
                    contain both words, "athletics" as well as "sports"
                </p>
            </li>
            <li>
                <p>
                    <strong>"HokieBird"</strong>: Finds all documents that
                    contains
```

```

        the exact phrase "HokieBird"
    </p>
</li>
<li>
    <p>
        <strong>physics -quantum</strong>: Finds all
documents that
        contain the word "physics" but excludes ones
        containing the word
        "quantum"
    </p>
</li>
<li>
    <p>
        <strong>sports OR athletics</strong>: Finds all
documents that
        contain at least one of the two words. The "OR" needs
to be
        upper-case.
    </p>
</li>
</ul>
</div>
</div>
</div>
<div id="footer_container">

```

```

<!-- BEGIN FOOTER -->
<div id="footer">
    <ul>
        <li><a href="http://www.bookstore.vt.edu">Bookstore</a></li>
        <li><a href="http://www.jobs.vt.edu/">Jobs at Virginia Tech</a></li>
        <li><a href="http://www.vt.edu/contacts/">Contact Us</a></li>
        <li><a href="http://www.vt.edu/about/equal-opportunity.html">Equal
            Opportunity</a></li>
    </ul>
    <ul>
        <li><a
            href="http://www.vt.edu/diversity/principles-of-community.html">Principles
            of Community</a></li>
        <li><a href="http://www.vt.edu/about/privacy.html">Privacy
            Statement</a></li>
    </ul>

```

```
<li><a href="http://www.vt.edu/about/acceptable-use.html">Acceptable
    Use Policy</a></li>
<li><a href="http://www.vt.edu/about/accessibility.html">Accessibility</a>
</li>
</ul>
<p>&copy; 2016 Virginia Polytechnic Institute and State University. <span
id="version-number">VT Search: 2.4.3</span></p>
</div>
<!-- END FOOTER -->
</div>
</div>
<script type="text/javascript">
var gaJsHost = (("https:" == document.location.protocol) ? "https://ssl." : "http://www.");
document.write(unescape("%3Cscript src='" + gaJsHost + "google-analytics.com/ga.js'
type='text/javascript'%3E%3C/script%3E"));
</script>
<script type="text/javascript">
var pageTracker = _gat._getTracker("UA-5217491-2");
pageTracker._trackPageview();
</script>
</body>
</html>
```

Skip Menu

- [Skip to Search](#)
- [Skip to Results](#)

- [News](#)
- [Calendar](#)
- [Giving](#)
- [Libraries](#)
- [Maps & Locations](#)
- [A to Z Index](#)

- [Hokie Spa](#)
- [Scholar](#)
- [My VT](#)

- [We Remember](#)

[Return to Skip Menu](#)

Search

Lauren Slavin

- [VT Web](#)
- [People](#)

[Return to Skip Menu](#)

Results

Mobile Search

Want to find something while you are on the go? You can now use VT search with your [mobile](#) device.

Search Tips

- **athletics sports**: Finds all documents that contain both words, "athletics" as well as "sports"
- **"HokieBird"**: Finds all documents that contains the exact phrase "HokieBird"
- **physics -quantum**: Finds all documents that contain the word "physics" but excludes ones containing the word "quantum"
- **sports OR athletics**: Finds all documents that contain at least one of the two words. The "OR" needs to be upper-case.

- [Bookstore](#)
- [Jobs at Virginia Tech](#)
- [Contact Us](#)
- [Equal Opportunity](#)

2.

```
import requests                                     #Imports
requests library
from BeautifulSoup import BeautifulSoup             #Imports BeautifulSoup
url = raw_input("input URL: ")                     #Applies a text to respond to
response = requests.get(url)                       #Response equals the response to
getting the url
page = str(BeautifulSoup(response.content))         #The page referred to later is ran
through BeautifulSoup
def get_Link(page):                                #Defining a the name
of the case 'get_Link'
    start_link = page.find("a href")               #\
    if start_link == -1:                           # \
        return None, 0                            # \
    start_quote = page.find("'", start_link)        # This part finds the links on the page
searched
    end_quote = page.find("'", start_quote + 1)     # /
    url = page[start_quote + 1: end_quote]          # /
    return url, end_quote                          #/
while True:                                        #While the url
is true it will
    url, n = get_Link(page)                         # define 'url' and 'n' as
used in the get_Link block of code
    page = page[n:]                                # define page to
be a new page with the newly created 'n'
    if url:                                        # if it is a
url
        print url                                # print the url
    else:                                         # if it isnt a url
        break                                    # break
the cycle
```

```
A1Q2.py
1 import requests
2 from BeautifulSoup import BeautifulSoup
3 url = raw_input("input URL: ")
4 response = requests.get(url)
5 page = str(BeautifulSoup(response.content))
6 def get_Link(page):
7     start_link = page.find("a href")
8     if start_link == -1:
9         return None, 0
10    start_quote = page.find("'", start_link)
11    end_quote = page.find("'", start_quote + 1)
12    url = page[start_quote + 1: end_quote]
13    return url, end_quote
14 while True:
15     url, n = get_Link(page)
16     page = page[n:]
17     if url:
18         print url
19     else:
20         break

#Imports requests library
#Imports BeautifulSoup
#Applies a text to respond to
#Response equals the response to getting the
#The page referred to later is ran through Be
#Defining a the name of the case 'get_Link'
#\
# \
# \
# This part finds the links on the page sea
# /
# /
# /
#While the url is true it will
# define 'url' and 'n' as used in the get_L
# define page to be a new page with the new
# if it is a url
# print the url
# if it isnt a url
# break the cycle
```

Line 20, Column 72

Tab Size: 4 Python

```
Desktop — bash — 80x24

print url, pdfinfo
NameError: name 'pdfinfo' is not defined
Jamies-MacBook-Pro:desktop jamiegastrich$ python A1Q2.py
input URL: http://www.cs.odu.edu/~mln/teaching/cs532-s16/test/pdfs.html
http://twitter.com/webscidl
http://www.dlib.org/dlib/november15/vandesompel/11vandesompel.html
http://arxiv.org/abs/1508.02315
http://arxiv.org/abs/1508.02315
http://www.cs.odu.edu/~mln/pubs/ht-2015/hypertext-2015-temporal-violations.pdf
http://www.cs.odu.edu/~mln/pubs/tpdl-2015/tpdl-2015-annotations.pdf
http://arxiv.org/pdf/1512.06195
http://www.cs.odu.edu/~mln/pubs/tpdl-2015/tpdl-2015-off-topic.pdf
http://www.cs.odu.edu/~mln/pubs/tpdl-2015/tpdl-2015-stories.pdf
http://www.cs.odu.edu/~mln/pubs/tpdl-2015/tpdl-2015-profiling.pdf
http://dx.doi.org/10.1007/s00799-015-0150-6
http://arxiv.org/abs/1506.06279
http://dx.doi.org/10.1007/s00799-015-0155-1
http://bit.ly/1ZDatNK
http://www.cs.odu.edu/~mln/pubs/jcdl-2015/jcdl-2015-mink.pdf
http://www.cs.odu.edu/~mln/pubs/jcdl-2015/jcdl-2015-arabic-sites.pdf
http://www.cs.odu.edu/~mln/pubs/jcdl-2015/jcdl-2015-dictionary.pdf
http://bit.ly/jcdl-pdf
http://dx.doi.org/10.1007/s00799-015-0140-8
Jamies-MacBook-Pro:desktop jamiegastrich$
```



```
Desktop — bash — 80x53
Jamies-MacBook-Pro:desktop jamiegastrich$ python A1Q2.py
input URL: http://www.hamptonroadchurch.com/resourcepage/
#\
/
/welcome/
/meeting/
/whatsnew/
/when/
/contacts/
/beliefs/
/resourcepage/
/women/
/men/
/marrieds/
/teens/
/campus/
/singles/
/parenting/
/dads/
/moms/
/church-in-action/
/worship/
/kingdom-kids/
/preteens/
/peninsula-region/
/coastal-region/
/tidewater-region/
/coastalsingles/
/peninsula-singles/
/campus-ministry/
/coastalphotos/
/peninsula-region-photos/
/norfolk-region-photos/
/west-region-photos/
/campus-ministry-photos/
/teen-ministry-photos/
/churchwide-events-photos/
/vbsingles/
/tidewater-photos/
/hrc-at-harbor-park-tides-game/
/celebrate-conference/
/beachstock/
/eds-blog/
/jeffs-blog/
/shauns-new-blog/
/ayhannasblog/
/new-blog/
/matts-blog/
/celebrate-heaven-campaign/
/online-giving-e-giving/
/epic/
/teen-retreat-16/
/vow/
```



```
/vow/  
/acrstepsofpaul/  
/  
/welcome/  
/meeting/  
/whatsnew/  
/when/  
/contacts/  
/beliefs/  
/resourcepage/  
/women/  
/men/  
/marrieds/  
/teens/  
/campus/  
/singles/  
/parenting/  
/dads/  
/moms/  
/church-in-action/  
/worship/  
/kingdom-kids/  
/preteens/  
/peninsula-region/  
/coastal-region/  
/tidewater-region/  
/coastalsingles/  
/peninsula-singles/  
/campus-ministry/  
/coastalphotos/  
/peninsula-region-photos/  
/norfolk-region-photos/  
/west-region-photos/  
/campus-ministry-photos/  
/teen-ministry-photos/  
/churchwide-events-photos/  
/vbsingles/  
/tidewater-photos/  
/hrc-at-harbor-park-tides-game/  
/celebrate-conference/  
/beachstock/  
/eds-blog/  
/jeffs-blog/  
/shauns-new-blog/  
/ayhannasblog/  
/new-blog/  
/matts-blog/  
/celebrate-heaven-campaign/  
/online-giving-e-giving/  
/epic/  
/teen-retreat-16/  
/vow/  
/acrstepsofpaul/
```

```
Desktop — bash — 80x53
/jeffs-blog/
/shauns-new-blog/
/ayhannasblog/
/new-blog/
/matts-blog/
/celebrate-heaven-campaign/
/online-giving-e-giving/
/epic/
/teen-retreat-16/
/vow/
/acrstepsofpaul/
https://www.flickr.com/photos/106855462@N02/
https://www.facebook.com/hamptonroadschurch
http://instagram.com/hrccampus
https://plus.google.com/109606127703859905672
https://itunes.apple.com/us/podcast/luke-hampton-roads-church/id770303048?mt=2
https://plus.google.com/u/0/b/110496732987448982759/110496732987448982759/posts
/
//maps.google.com/maps?q=1132 Pickett Road, Norfolk, VA,Norfolk, VA
mailto:kirkvalencia@gmail.com
#
http://www.commonwealthacademy.ca
/s/NetMenders-Bible-in-a-Year-zvtg.pdf
/how-to-have-effective-quiet-times
/seeking-god-and-word-studies
https://hamptonroadschurchsite.squarespace.com/downloadable-resources
/troas-teaching-events
http://www.cwacademy.net/disciplemakers
/meateaters
/s/NEW_Teen.pdf
/character-studies
/new-christians-studies
/7th-grade-transition-studies
/family-devotional-lessons
/repentance-resources
/bodybuilders
/bodybuilders-iii
/discipleship-resources
/leadership-training-program-re
/bible-talk-resources
/parent-teen
/luke
/new-blog-1
/hebrews-sermons
/first-corinthians-sermons
/financial-freedom
/special-guest-speakers
/holy-spirit-sermons
/koinonia-lessons
/seizing-divine-moments-sermons
/thirty-days-at-the-foot-of-the-cross
/fan-or-follower-of-jesus-sermo
```

```
Desktop — bash — 80x53
Jamies-MacBook-Pro:desktop jamiegastrich$ python A1Q2.py
input URL: https://www.jimmyjohns.com/menu/#/
/Library/Python/2.7/site-packages/requests-2.9.1-py2.7.egg/requests/packages/urllib3/util/ssl_.py:315: SNIMissingWarning: An HTTPS request has been made, but the SNI (Subject Name Indication) extension to TLS is not available on this platform. This may cause the server to present an incorrect TLS certificate, which can cause validation failures. For more information, see https://urllib3.readthedocs.org/en/latest/security.html#snimissingwarning.
  SNIMissingWarning
/Library/Python/2.7/site-packages/requests-2.9.1-py2.7.egg/requests/packages/urllib3/util/ssl_.py:120: InsecurePlatformWarning: A true SSLContext object is not available. This prevents urllib3 from configuring SSL appropriately and may cause certain SSL connections to fail. For more information, see https://urllib3.readthedocs.org/en/latest/security.html#insecureplatformwarning.
  InsecurePlatformWarning
#mainContent
/
#mobileMenu
/find-a-jjs/
/
https://online.jimmyjohns.com/
#backToMenu
#
#
/menu/
/find-a-jjs/
/jj-store/
/company/
/sustainability/
/menu/
/catering/
#
#
https://online.jimmyjohns.com
/find-a-jjs/
/menu/
/jj-store/
/company/
/sustainability/
http://instagram.com/jimmyjohns
http://www.facebook.com/jimmyjohns
http://twitter.com/jimmyjohns
http://pinterest.com/jimmyjohns/
http://www.youtube.com/jimmyjohns/
http://www.freakyfast.com/
/privacy-policy
/terms-and-conditions
/company/jobs
/company/feedback
http://www.jimmyjohns.com/owners/login/
#
#
#
```

```
#
#
#
#
#StartOrder
#
#
#
#StartOrder
#deleteItem
#editItem
#deleteItem
#
#
#
```

3.

In	O, P, M
SCC	A, B, C, G,
OUT	D, H
tendrils	I, J, L
tubes	N
disconnected	E, F, K