Task1: Fetching Data From Website

```
In [2]: import requests
    python = requests.get("https://www.python.org/")
    python.text
```

```
Out[2]: '<!doctype html>\n<!--[if lt IE 7]> <html class="no-js ie6 lt-ie7 lt-ie8 lt-ie
              <![endif]-->\n<!--[if IE 7]>
                                                <html class="no-js ie7 lt-ie8 lt-ie9">
        <![endif]-->\n<!--[if IE 8]>
                                        <html class="no-js ie8 lt-ie9">
        <![endif]-->\n<!--[if gt IE 8]><!--><html class="no-js" lang="en" dir="ltr"> <!--
        alytics.python.org/js/script.outbound-links.js"></script>\n\n
                                                                         <meta charset="ut
                   <meta http-equiv="X-UA-Compatible" content="IE=edge">\n\n
        ="prefetch" href="//ajax.googleapis.com/ajax/libs/jquery/1.8.2/jquery.min.js">\n
        <link rel="prefetch" href="//ajax.googleapis.com/ajax/libs/jqueryui/1.12.1/jquery-</pre>
                           <meta name="application-name" content="Python.org">\n <meta</pre>
        ui.min.js">\n\n
        name="msapplication-tooltip" content="The official home of the Python Programming
                        <meta name="apple-mobile-web-app-title" content="Python.org">\n
         <meta name="apple-mobile-web-app-capable" content="yes">\n
                                                                      <meta name="apple-mo
        bile-web-app-status-bar-style" content="black">\n\n
                                                                <meta name="viewport" conte</pre>
        nt="width=device-width, initial-scale=1.0">\n
                                                         <meta name="HandheldFriendly" con</pre>
                          <meta name="format-detection" content="telephone=no">\n
        tent="True">\n
                                                                                      <meta
        http-equiv="cleartype" content="on">\n
                                                  <meta http-equiv="imagetoolbar" content</pre>
        ="false">\n\n
                       <script async\n
                                                     src="https://media.ethicalads.io/medi
        a/client/v1.4.0/ethicalads.min.js"\n
                                                         integrity="sha256-U3hKDidudIaxBDEz
        wGJApJgPEf2mWk6cfMWghrAa6i0= sha384-UcmsCqcNRSLW/dV3Lo1oCi2/VaurXbib6p4HyUEOeIa/40
        psrnucrugAefzVZJfI sha512-q4t1L4xEjGV2R4hzqCa41P8jrgFUS8xTb8rdNv4FGvw7FpydVj/kkxBJ
        HOiaoxHa8olCcx1Slk9K+3sNbsM4ug=="\n
                                                       crossorigin="anonymous"\n
                                                                                    ></scr
                  <script src="/static/js/libs/modernizr.js"></script>\n\n
                                                                              klink href
        ="/static/stylesheets/style.08a078d0aa02.css" rel="stylesheet" type="text/css" med
        ia="all" title="default" />\n <link href="/static/stylesheets/mg.98d6092b2ada.c</pre>
        ss" rel="stylesheet" type="text/css" media="not print, braille, embossed, speech,
                     <link href="/static/stylesheets/no-mq.bf0c425cdb73.css" rel="styleshe</pre>
        et" type="text/css" media="screen" />\n \n\n
                                                         <!--[if (lte IE 8)&(!IEMobile)]
                <link href="/static/stylesheets/no-mg.bf0c425cdb73.css" rel="stylesheet" ty</pre>
        pe="text/css" media="screen" />\n \n
                                                   \n
                                                         <![endif]-->\n
                                                                           <link rel="styl</pre>
        esheet" href="//ajax.googleapis.com/ajax/libs/jqueryui/1.12.1/themes/smoothness/jq
        uery-ui.css">\n\n
                                   <link rel="icon" type="image/x-icon" href="/static/favi</pre>
                             \n
        con.ico">\n
                       <link rel="apple-touch-icon-precomposed" sizes="144x144" href="/sta</pre>
        tic/apple-touch-icon-144x144-precomposed.png">\n
                                                            <link rel="apple-touch-icon-pr</pre>
        ecomposed" sizes="114x114" href="/static/apple-touch-icon-114x114-precomposed.pn
                 <link rel="apple-touch-icon-precomposed" sizes="72x72" href="/static/appl</pre>
        e-touch-icon-72x72-precomposed.png">\n
                                                  <link rel="apple-touch-icon-precomposed"</pre>
                                                              <link rel="apple-touch-icon"</pre>
        href="/static/apple-touch-icon-precomposed.png">\n
        href="/static/apple-touch-icon-precomposed.png">\n\n
                                                                \n
                                                                      <meta name="msapplic
        ation-TileImage" content="/static/metro-icon-144x144.png"><!-- white shape -->\n
        <meta name="msapplication-TileColor" content="#3673a5"><!-- python blue -->\n
        meta name="msapplication-navbutton-color" content="#3673a5">\n\n
                                                                            <title>Welcome
        to Python.org</title>\n\n
                                     <meta name="description" content="The official home o</pre>
                                                 <meta name="keywords" content="Python pro</pre>
        f the Python Programming Language">\n
        gramming language object oriented web free open source software license documentat
        ion download community">\n\n
                                              <meta property="og:type" content="website">
                                        \n
               <meta property="og:site_name" content="Python.org">\n
                                                                       <meta property="og:</pre>
        title" content="Welcome to Python.org">\n
                                                   <meta property="og:description" conte</pre>
        nt="The official home of the Python Programming Language">\n
                                                                        \n
                                                                               <meta proper
        ty="og:image" content="https://www.python.org/static/opengraph-icon-200x200.png">
        \n <meta property="og:image:secure_url" content="https://www.python.org/static/</pre>
        opengraph-icon-200x200.png">\n
                                          \n
                                                 <meta property="og:url" content="https://w</pre>
        ww.python.org/">\n\n <link rel="author" href="/humans.txt">\n\n
        lternate" type="application/rss+xml" title="Python Enhancement Proposals"\n
        href="https://peps.python.org/peps.rss">\n <link rel="alternate" type="applicat</pre>
        ion/rss+xml" title="Python Job Opportunities"\n
                                                                 href="https://www.python.
```

```
org/jobs/feed/rss/">\n
                         <link rel="alternate" type="application/rss+xml" title</pre>
="Python Software Foundation News"\n href="https://feeds.feedburner.com/P
ythonSoftwareFoundationNews">\n link rel="alternate" type="application/rss+xm
                                   href="https://feeds.feedburner.com/PythonInsi
l" title="Python Insider"\n
der">\n <link rel="alternate" type="application/rss+xml" title="Python Release</pre>
            href="https://www.python.org/downloads/feed.rss">\n\n
s"\n
                                                                    n\n
<script type="application/ld+json">\n
                                       {\n
                                                  "@context": "https://schema.or
                                       "url": "https://www.python.org/",\n
g",∖n
            "@type": "WebSite",\n
                              "@type": "SearchAction",\n
"potentialAction": {\n
                                                                "target": "http
s://www.python.org/search/?q={search_term_string}",\n
                                                            "query-input": "requ
                                                   </script>\n\n
                                                                          <scrip
ired name=search_term_string"\n
                                     }\n
                                             }\n
                                                                    \n
                                                         _gaq.push([\'_setAccoun
t type="text/javascript">\n
                              var _gaq = _gaq || [];\n
t\', \'UA-39055973-1\']);\n
                              _gaq.push([\'_trackPageview\']);\n\n
          var ga = document.createElement(\'script\'); ga.type = \'text/javascrip
t\'; ga.async = true;\n
                              ga.src = (\'https:\' == document.location.protocol
? \'https://ssl\' : \'http://www\') + \'.google-analytics.com/ga.js\';\n
r s = document.getElementsByTagName(\'script\')[0]; s.parentNode.insertBefore(ga,
                                  \n</head>\n\c) class="python home" id="home"
        })();\n
                   </script>\n
s);\n
             <div id="touchnav-wrapper">\n\n
                                                   <div id="nojs" class="do-not-</pre>
page">\n\n
print">\n
                    <strong>Notice:</strong> While JavaScript is not essential
for this website, your interaction with the content will be limited. Please turn J
avaScript on for the full experience. 
                                                  </div>\n\n
                                                                    <!--[if lte
IE 8]>\n
               <div id="oldie-warning" class="do-not-print">\n
                                                                         \n
<strong>Notice:</strong> Your browser is <em>ancient</em>. Please\n
<a href="http://browsehappy.com/">upgrade to a different browser</a> to experience
a better web.\n
                          \n
                                        </div>\n
                                                       <![endif]-->\n\n
                                   <div id="top" class="top-bar do-not-print">\n
<!-- Sister Site Links -->\n
             <nav class="meta-navigation container" role="navigation">\n\n
\n
                 <div class="skip-link screen-reader-text">\n
<a href="#content" title="Skip to content">Skip to content</a>\n
                                                                              </
                                        <a id="close-python-network" class="jump</pre>
div>\n\n
                       \n
-link" href="#python-network" aria-hidden="true">\n
                                                                     <span aria-</pre>
hidden="true" class="icon-arrow-down"><span>&#9660;</span></span> Close\n
                       \n\n\n
                                                                   class="py">class="py">
</a>\n\n
thon-meta current_item selectedcurrent_branch selected">\n
                                                                <a href="/" titl
e="The Python Programming Language" class="current_item selectedcurrent_branch sel
                                \n \n
ected">Python</a>\n
                      \n
ttps://www.python.org/psf/" title="The Python Software Foundation" >PSF</a>\n
                class="docs-meta">\n
          \n
                                                 <a href="https://docs.python.or</pre>
g" title="Python Documentation" >Docs</a>\n
                                              \n
                                                       \n <li class="pypi-me
ta ">\n
              <a href="https://pypi.org/" title="Python Package Index" >PyPI</a>
      \n
                \n
                      \n
                                                      <a href="/jobs/" title="Py</pre>
thon Job Board" >Jobs</a>\n
                              \n
                                              class="shop-meta">\n
                                        \n
a href="/community/" >Community</a>\n
                                        \n
                                                   \n\n\n
<a id="python-network" class="jump-link" href="#top" aria-hidden="true">\n
<span aria-hidden="true" class="icon-arrow-up"><span>&#9650;</span></span> The Pyt
hon Network\n
                            </a>\n\n
                                                </nav>\n\n
                                                                 </div>\n\n
<!-- Header elements -->\n
                                 <header class="main-header" role="banner">\n
<div class="container">\n\n
                                          <h1 class="site-headline">\n
<a href="/"><img class="python-logo" src="/static/img/python-logo.png" alt="python")</pre>
™"></a>\n
                                                      <div class="options-bar-co</pre>
                              </h1>\n\n
ntainer do-not-print">\n
                                           <a href="https://psfmember.org/civicr">https://psfmember.org/civicr
m/contribute/transact?reset=1&id=2" class="donate-button">Donate</a>\n
<div class="options-bar">\n
                                                                           <a id
="site-map-link" class="jump-to-menu" href="#site-map"><span class="menu-icon">&eq
uiv;</span> Menu</a><form class="search-the-site" action="/search/" method="get">
```

```
<fieldset title="Search Python.org">\n\n
<span aria-hidden="true" class="icon-search"></span>\n\n
<label class="screen-reader-text" for="id-search-field">Search This Site</label>\n
<input id="id-search-field" name="q" type="search" role="textbox" class="search-fi</pre>
eld" placeholder="Search" value="" tabindex="1">\n\n
<button type="submit" name="submit" id="submit" class="search-button" title="Submi</pre>
t this Search" tabindex="3">\n
</button>\n\n
                                       \n
                                                                    <!-
-[if IE]><input type="text" style="display: none;" disabled="disabled" size="1" ta
bindex="4"><![endif]-->\n\n
                                               </fieldset>\n
</form><span class="breaker"></span><div class="adjust-font-size" aria-hidden="tru
e">\n
                            xt Size on Page">\n
                                            spopup="true">\n
                                             <a href="#" class="action-trig</pre>
ger"><strong><small>A</small> A</strong></a>\n
\n
                                                         class="tier-
2 element-1" role="treeitem"><a class="text-shrink" title="Make Text Smaller" href
                                                                clas
="javascript:;">Smaller</a>
s="tier-2 element-2" role="treeitem"><a class="text-grow" title="Make Text Larger"
href="javascript:;">Larger</a>\n
lass="tier-2 element-3" role="treeitem"><a class="text-reset" title="Reset any fon
t size changes I have made" href="javascript:;">Reset</a>\n
\n
                                  \n
                                                                \n
</div><div class="winkwink-nudgenudge">\n
                                                           vigation menu" aria-label="Social Media Navigation">\n
\n
<a href="#" class="action-trigger">Socialize</a>\n
\n
                                                         class="tier-
2 element-1" role="treeitem"><a href="https://www.linkedin.com/company/python-soft</pre>
ware-foundation/"><i aria-hidden="true" class="fa fa-linkedin-square"></i>LinkedIn
                                            </a>\n
le="treeitem"><a href="https://fosstodon.org/@ThePSF"><span aria-hidden="true" cla</pre>
ss="icon-mastodon"></span>Mastodon</a>
class="tier-2 element-3" role="treeitem"><a href="/community/irc/"><span aria-</pre>
hidden="true" class="icon-freenode"></span>Chat on IRC</a>\n
class="tier-2 element-4" role="treeitem"><a href="https://twitter.com/ThePSF">
<span aria-hidden="true" class="icon-twitter"></span>Twitter</a>
\n
                                  \n
                                                                \n
                           <span data-html-include="/authenticated"></span>\n
</div>\n
</div><!-- end options-bar -->\n
                                         </div>\n\n
="mainnav" class="python-navigation main-navigation do-not-print" role="navigatio
                     \n
                                            \n<ul class="navigation menu" r
ole="menubar" aria-label="Main Navigation">\n \n
                                             \n
                                                   \n
                                                        id="about" cl
ass="tier-1 element-1 " aria-haspopup="true">\n
                                                <a href="/about/" title=""</pre>
class="">About</a>\n
                        \n
                                    \n\n<ul class="subnav menu" role="menu"
aria-hidden="true">\n
                              <a</pre>
                     \n
href="/about/apps/" title="">Applications</a>\n
                                                \n
                                                         class="tier-"
2 element-2" role="treeitem"><a href="/about/quotes/" title="">Quotes</a>\n
        class="tier-2 element-3" role="treeitem"><a href="/about/gettingstar</pre>
ted/" title="">Getting Started</a>\n \n
                                              4" role="treeitem"><a href="/about/help/" title="">Help</a>
i class="tier-2 element-5" role="treeitem"><a href="http://brochure.getpython.inf"
o/" title="">Python Brochure</a>\n \n\n\n
                                                     \n
                                                           \n
          \n
<a href="/downloads/" title="" class="">Downloads</a>\n
                                                     \n
ul class="subnav menu" role="menu" aria-hidden="true">\n
                                                    \n
                                                            class="t">
```

```
ier-2 element-1" role="treeitem"><a href="/downloads/" title="">All releases</a>
li>\n \n class="tier-2 element-2" role="treeitem"><a href="/download
s/source/" title="">Source code</a>\n \n
                                      3" role="treeitem"><a href="/downloads/windows/" title="">Windows</a>\n
<a href="/downloads/macos/" title="">
                    <a href</pre>
macOS</a>\n
              \n
="/downloads/android/" title="">Android</a>\n \n <li class="tier-2"
element-6" role="treeitem"><a href="/download/other/" title="">Other Platforms</a>
              <a href="http"</pre>
s://docs.python.org/3/license.html" title="">License</a>\n \n <li c
lass="tier-2 element-8" role="treeitem"><a href="/download/alternatives" title="">
Alternative Implementations</a>\n \n\n\n \n
\n \n id="documentation" class="tier-1 element-3" aria-haspopup="tru
        <a href="/doc/" title="" class="">Documentation</a>\n
\n\n\n
                                                     cla cla
ss="tier-2 element-1" role="treeitem"><a href="/doc/" title="">Docs</a>
       class="tier-2 element-2" role="treeitem"><a href="/doc/av" title="">
                              Audio/Visual Talks</a>\n \n
item"><a href="https://wiki.python.org/moin/BeginnersGuide" title="">Beginner&#x2
7;s Guide</a>\n \n class="tier-2 element-4" role="treeitem"><a
href="https://devguide.python.org/" title="">Developer's Guide</a>\n
       class="tier-2 element-5" role="treeitem"><a href="https://docs.pytho">
n.org/faq/" title="">FAQ</a>\n \n class="tier-2 element-6" role
="treeitem"><a href="http://wiki.python.org/moin/Languages" title="">Non-English D
ocs</a>\n \n class="tier-2 element-7" role="treeitem"><a href
="https://peps.python.org" title="">PEP Index</a>\n \n class="t
ier-2 element-8" role="treeitem"><a href="https://wiki.python.org/moin/PythonBook">
s" title="">Python Books</a>\n \n class="tier-2 element-9" role
="treeitem"><a href="/doc/essays/" title="">Python Essays</a>\n \n
      mmunity</a>\n
            \n
                        \n\n<ul class="subnav menu" role="menu" aria-hi
                    <a href</pre>
dden="true">\n \n
="/community/diversity/" title="">Diversity</a>\n \n <li class="tie"
r-2 element-2" role="treeitem"><a href="/community/lists/" title="">Mailing Lists
               <a href="/co</pre>
</a>\n
         \n
mmunity/irc/" title="">IRC</a>\n \n
                                   le="treeitem"><a href="/community/forums/" title="">Forums</a>\n
class="tier-2 element-5" role="treeitem"><a href="/psf/annual-report/2024/" ti</pre>
tle="">PSF Annual Impact Report</a>\n \n class="tier-2 element-
6" role="treeitem"><a href="/community/workshops/" title="">Python Conferences</a>
              <a href="/commun</pre>
ity/sigs/" title="">Special Interest Groups</a>\n \n <li class="tie"
r-2 element-8" role="treeitem"><a href="/community/logos/" title="">Python Logo</a
>\n \n class="tier-2 element-9" role="treeitem"><a href="http"
</pre>
s://wiki.python.org/moin/" title="">Python Wiki</a>\n \n <li class
="tier-2 element-10" role="treeitem"><a href="/psf/conduct/" title="">Code of Cond
uct</a>\n \n
                  <a href</pre>
="/community/awards" title="">Community Awards</a>\n \n <li class
="tier-2 element-12" role="treeitem"><a href="/psf/get-involved/" title="">Get Inv
                   <a hre</pre>
olved</a>\n
            \n
f="/psf/community-stories/" title="">Shared Stories</a>\n \n
ries" class="">Success Stories</a>\n \n
                                         \n\n<ul class="subnav me
nu" role="menu" aria-hidden="true">\n
                                    \n
```

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le="treeitem"><a href="/success-stories/category/arts/" title="">Arts</a>\n
\n class="tier-2 element-2" role="treeitem"><a href="/success-stories/c"</pre>
ategory/business/" title="">Business</a>
                                         \n
                                                   ment-3" role="treeitem"><a href="/success-stories/category/education/" title="">Ed
ucation</a>
\n class="tier-2 element-4" role="treeitem"><a hr</pre>
ef="/success-stories/category/engineering/" title="">Engineering</a>\n \n
class="tier-2 element-5" role="treeitem"><a href="/success-stories/category/go</pre>
vernment/" title="">Government</a>\n
                                              6" role="treeitem"><a href="/success-stories/category/scientific/" title="">Scient
ific</a>\n \n
                       <a href</pre>
="/success-stories/category/software-development/" title="">Software Development</
a>\n \n\n\n
                        \n \n
                                       \n
                                              \n \n id="news" c
lass="tier-1 element-6 " aria-haspopup="true">\n
                                               <a href="/blogs/" title
="News from around the Python world" class="">News</a>\n
\n
                                                    \n
                                                            class
="tier-2 element-1" role="treeitem"><a href="/blogs/" title="Python Insider Blog P
osts">Python News</a>\n \n class="tier-2 element-2" role="treei
tem"><a href="/psf/newsletter/" title="Python Software Foundation Newsletter">PSF
Newsletter</a>\n \n class="tier-2 element-3" role="treeitem"><a
href="http://pyfound.blogspot.com/" title="PSF Blog">PSF News</a>\n
<a href="http://pycon.blogspot.com/"</pre>
title="PyCon Blog">PyCon US News</a>\n \n class="tier-2 element"
-5" role="treeitem"><a href="http://planetpython.org/" title="Planet Python">News
from the Community</a>\n \n\n\n
                                           \n
                                                 \n
\n id="events" class="tier-1 element-7 " aria-haspopup="true">\n
href="/events/" title="" class="">Events</a>\n
                                            \n
                                                          \n\n<ul class
="subnav menu" role="menu" aria-hidden="true">\n
                                                    class="tier-2 el
                                            \n
ement-1" role="treeitem"><a href="/events/python-events/" title="">Python Events/
a>\n \n class="tier-2 element-2" role="treeitem"><a href="/even
ts/python-user-group/" title="">User Group Events</a>
s="tier-2 element-3" role="treeitem"><a href="/events/python-events/past/" title</pre>
="">Python Events Archive</a>\n \n class="tier-2 element-4" rol
e="treeitem"><a href="/events/python-user-group/past/" title="">User Group Events
Archive</a>\n \n class="tier-2 element-5" role="treeitem"><a hr
ef="https://wiki.python.org/moin/PythonEventsCalendar#Submitting_an_Event" title
="">Submit an Event</a>\n \n\n\n
                                             \n
                                                  \n
                                                                \n
                                                  </nav>\n\n
    n \n

                                   \n
<div class="header-banner "> <!-- for optional "do-not-print" class -->\n
        <div id="dive-into-python" class="flex-slideshow slideshow">\n\n
\n
<a class="button prompt" id="start-shell" data-shell-container="#dive-into-python"</pre>
href="/shell/">>_\n
                                       <span class="message">Launch Interac
tive Shell</span>\n
                                 </a>\n
                                                   \n
                \n
ul>\n\n
                   <div class="slide-code"><code><span class="comment">#
Python 3: Fibonacci series up to n</span>\r\n>>> def fib(n):\r\n>>>
                                                             a, b = 0,
           while a < n:\r\n>>>
                                    print(a, end=\' \')\r\n>>>
b = b, a+b\r\n>>>
                  print()\r\n>>> fib(1000)\r\n<span class="output">0 1 1 2 3 5
8 13 21 34 55 89 144 233 377 610 987</span></code></div>\n
<div class="slide-copy"><h1>Functions Defined</h1>\r\nThe core of extensible pr
ogramming is defining functions. Python allows mandatory and optional arguments, k
eyword arguments, and even arbitrary argument lists. <a href="//docs.python.org/3/
tutorial/controlflow.html#defining-functions">More about defining functions in Pyt
hon 3</a></div>\n
                                   \n
                                                       \n
                      <div class="slide-code"><code><span class="commen</pre>
t"># Python 3: List comprehensions</span>\r\n>>> fruits = [\'Banana\', \'Apple\',
```

```
\'Lime\']\r\n>>> loud_fruits = [fruit.upper() for fruit in fruits]\r\n>>> print(lo
ud_fruits)\r\n<span class="output">[\'BANANA\', \'APPLE\', \'LIME\']</span>\r\n\r
\n<span class="comment"># List and the enumerate function</span>\r\n>>> list(enume
rate(fruits))\r\n<span class="output">[(0, \'Banana\'), (1, \'Apple\'), (2, \'Lime
\')]</span></code></div>\n
                                                  <div class="slide-copy"><h1>Co
mpound Data Types</h1>\r\nLists (known as arrays in other languages) are one of
the compound data types that Python understands. Lists can be indexed, sliced and
manipulated with other built-in functions. <a href="//docs.python.org/3/tutorial/i
ntroduction.html#lists">More about lists in Python 3</a></div>\n
\n
                                        \n
                                                                 <div class="sli
de-code"><code><span class="comment"># Python 3: Simple arithmetic</span>\r\n
>>> 1 / 2\r\n<span class="output">0.5</span>\r\n>>> 2 ** 3\r\n<span class="outpu
t">8</span>\r\n>>> 17 / 3 <span class="comment"># classic division returns a floa
t</span>\r\n<span class="output">5.66666666666667</span>\r\n>>> 17 // 3 <span cl
ass="comment"># floor division</span>\r\n<span class="output">5</span></code></pre
                            <div class="slide-copy"><h1>Intuitive Interpretation
></div>\n
</h1>\r\nCalculations are simple with Python, and expression syntax is straight
forward: the operators <code>+</code>, <code>-</code>, <code>*</code> and <code>/
</code> work as expected; parentheses <code>()</code> can be used for grouping. <a
href="http://docs.python.org/3/tutorial/introduction.html#using-python-as-a-calcul
ator">More about simple math functions in Python 3</a>.</div>\n
\n
                                        \n
                                                                 <div class="sli
de-code"><code><span class="comment"># For loop on a list</span>\r\n>>> numbe
rs = [2, 4, 6, 8]\\r\rangle product = 1\\r\rangle for number in numbers:\\r\rangle n...
ct = product * number\r\n... \r\n>>> print(\'The product is:\', product)\r\n<span</pre>
class="output">The product is: 384</span></code></div>\n
<div class="slide-copy"><h1>All the Flow You&rsquo;d Expect</h1>\r\nPython know
s the usual control flow statements that other languages speak — <code>if</c
ode>, <code>for</code>, <code>while</code> and <code>range</code> &mdash; with som
e of its own twists, of course. <a href="//docs.python.org/3/tutorial/controlflow."
html">More control flow tools in Python 3</a></div>\n
                                                                            </li
                                    \n
                                                             <div class="slide-c
ode"><code><span class="comment"># Simple output (with Unicode)</span>\r\n>>>
print("Hello, I\'m Python!")\r\n<span class="output">Hello, I\'m Python!</span>\r
\n<span class="comment"># Input, assignment</span>\r\n>>> name = input(\'What is y
our name?\\n\')\r\n<span class="output">What is your name?\r\nPython</span>\r\n>>>
print(f\'Hi, {name}.\')\r\n<span class="output">Hi, Python.</span></code>\r\n</pre</pre>
                            <div class="slide-copy"><h1>Quick & amp; Easy to Learn
></div>\n
</h1>\r\nExperienced programmers in any other language can pick up Python very
quickly, and beginners find the clean syntax and indentation structure easy to lea
rn. <a href="//docs.python.org/3/tutorial/">Whet your appetite</a> with our Python
 3 overview.</div>\n
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              </div>\n\n\n
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v class="introduction">\n
                                    Python is a programming language that lets
you work quickly <span class="breaker"></span>and integrate systems more effective
ly. <a class="readmore" href="/doc/">Learn More</a>\n
                                                               </div>\n\n
</div><!-- end .container -->\n
                                      </header>\n\n
                                                          <div id="content" clas
s="content-wrapper">\n
                                 <!-- Main Content Column -->\n
lass="container">\n\n
                                    <section class="main-content " role="main">\n
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                                       <div class="row">\n\n
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div class="small-widget get-started-widget">\n
                                                                    <h2 class="w
idget-title"><span aria-hidden="true" class="icon-get-started"></span>Get Started
</h2>\r\nWhether you\'re new to programming or an experienced developer, it\'s
easy to learn and use Python.\r\n<a href="/about/gettingstarted/">Start wit
h our Beginner's Guide</a>\n
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 $</div>\n\n$

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<div class="small-widget download-widget">\n
                                                                 <h2 class="wid
get-title"><span aria-hidden="true" class="icon-download"></span>Download</h2>\n<p</pre>
>Python source code and installers are available for download for all versions!</p
>\nLatest: <a href="/downloads/release/python-3137/">Python 3.13.7</a>\n
</div>\n\n
                            <div class="small-widget documentation-widget">\n
<h2 class="widget-title"><span aria-hidden="true" class="icon-documentation"></spa</pre>
n>Docs</h2>\r\nDocumentation for Python\'s standard library, along with tutoria
ls and guides, are available online.\r\n<a href="https://docs.python.org">d
ocs.python.org</a>\n
                                          </div>\n\n
ss="small-widget jobs-widget last">\n
                                                          <h2 class="widget-tit
le"><span aria-hidden="true" class="icon-jobs"></span>Jobs</h2>\r\nLooking for
work or have a Python related position that you\'re trying to hire for? Our <stron
g>relaunched community-run job board</strong> is the place to go.\r\n<a hre
f="//jobs.python.org">jobs.python.org</a>\n
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</div>\n\n
                        <div class="list-widgets row">\n\n
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iv class="medium-widget blog-widget">\n
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<div class="shrubbery">\n
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                                               \n
class="widget-title"><span aria-hidden="true" class="icon-news"></span>Latest News
                                 <a href="https://blog.p"</pre>
ython.org" title="More News">More</a>\n
\n
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                                \n<time datetime="2025-08-18T13:06:00+00:0</pre>
0"><span class="say-no-more">2025-</span>08-18</time>\n <a href="https://pyfound.b
logspot.com/2025/08/the-2024-python-developer-survey.html">The 2024 Python Develop
er Survey Results are here!</a>
\n<time datetime="2025-08-14T19:15:00.000003+00:00"><span class="say-no-more">
2025-</span>08-14</time>\n <a href="https://pythoninsider.blogspot.com/2025/08/pyt
hon-3140rc2-and-3137-are-go.html">Python 3.14.0rc2 and 3.13.7 are go!</a>
                                \n<time datetime="2025-08-14T16:19:00.000003</pre>
+00:00"><span class="say-no-more">2025-</span>08-14</time>\n <a href="https://pyfo">14.
und.blogspot.com/2025/08/announcing-psf-board-candidates-for-2025.html">Announcing
the PSF Board Candidates for 2025!</a>
\n<time datetime="2025-08-08T12:47:00.000004+00:00"><span class="say-no-more">
2025-</span>08-08</time>\n <a href="https://pyfound.blogspot.com/2025/08/announcin
g-python-software-foundation.html">Announcing Python Software Foundation Fellow Me
mbers for Q2 2025! "</a>
\n<time datetime="2025-08-07T12:45:00.000003+00:00"><span class="say-no-more">
2025-</span>08-07</time>\n <a href="https://pyfound.blogspot.com/2025/08/unmasking"
-phantom-dependencies-with.html">Unmasking Phantom Dependencies with Software Bill
-of-Materials as Ecosystem Neutral Metadata</a>

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class="shrubbery">\n
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s="widget-title"><span aria-hidden="true" class="icon-calendar"></span>Upcoming Ev
ents</h2>\n
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lendars/" title="More Events">More</a>\n
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tetime="2025-08-23T00:00:00+00:00"><span class="say-no-more">2025-</span>08-23</ti
me>\n <a href="/events/python-events/2071/">StatusCode 2 Hackathon</a>\n
\n<time datetime="2025-08-23T00:00:00+00:00"><span class="say-no-more">2025-
span>08-23</time>\n <a href="/events/python-events/2009/">PyCon Togo 2025</a>
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0"><span class="say-no-more">2025-</span>08-26</time>\n <a href="/events/python-us
er-group/2091/">PyLadies Amsterdam: Data science that ships: production-ready pipe
lines with Kedro</a>
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tetime="2025-08-28T00:00:00+00:00"><span class="say-no-more">2025-</span>08-28</ti
me>\n <a href="/events/python-events/2027/">PyCon Kenya 2025</a>\n
\n<time datetime="2025-08-28T00:00:00+00:00"><span class="say-no-more">2025-
span>08-28</time>\n <a href="/events/python-events/2020/">PyCon Poland 2025</a></l
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ium-widget success-stories-widget">\n
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<div class="shrubbery">\n
<h2 class="widget-title"><span aria-hidden="true" class="icon-success-stories"></s</pre>
pan>Success Stories</h2>\n
                                                                                <a h</pre>
ref="/success-stories/" title="More Success Stories">More</a>\n\n
                                             <div class="success-story-item" id="success-story-11</pre>
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                                                      <blockquote>\n
80">\n\n
n-data/">Generating realistic location data for users for testing or modeling simu
lations is a hard problem. Current approaches just create random locations inside
a box, placing users in waterways or on top of buildings. This inability to make a
ccurate, synthetic location data stifles a lot of innovative projects that require
diverse and complex datasets to fuel their work.</a>\n
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="0" border="0" width="100%" class="quote-from">\n
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ython-with-gretelai-to-generate-synthetic-location-data/">Using Python with Grete
1.ai to Generate Synthetic Location DataAlex Watson, co-founder and CP
O, Gretel.ai</em>
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et applications-widget last">\n
<h2 class="widget-title"><span aria-hidden="true" class="icon-python"></span>Use P
ython for…</h2>\r\n<a href="/about/apps" title="Mor
e Applications">More</a>\r\n\r\n\r\n
                                                                                        <b>Web Developmen
                           <span class="tag-wrapper"><a class="tag" href="http://www.django"</pre>
project.com/">Django</a>, <a class="tag" href="http://www.pylonsproject.org/">Pyra
mid</a>, <a class="tag" href="http://bottlepy.org">Bottle</a>, <a class="tag" href
="http://tornadoweb.org">Tornado</a>, <a href="http://flask.pocoo.org/" class="ta
g">Flask</a>, <a class="tag" href="http://www.web2py.com/">web2py</a></span>
          <b>GUI Development</b>:\r\n
                                                                    <span class="tag-wrapper"><a class</pre>
="tag" href="http://wiki.python.org/moin/TkInter">tkInter</a>, <a class="tag" href
="https://wiki.gnome.org/Projects/PyGObject">PyGObject</a>, <a class="tag" href="h
ttp://www.riverbankcomputing.co.uk/software/pyqt/intro">PyQt</a>, <a class="tag" h
ref="https://wiki.qt.io/PySide">PySide</a>, <a class="tag" href="https://kivy.or</pre>
g/">Kivy</a>, <a class="tag" href="http://www.wxpython.org/">wxPython</a>, <a clas
s="tag" href="https://dearpygui.readthedocs.io/en/latest/">DearPyGui</a></span></l</pre>
               <b>Scientific and Numeric</b>:\r\n
                                                                                   <span class="tag-wrapper">
\r\n<a class="tag" href="http://www.scipy.org">SciPy</a>, <a class="tag" href="htt</pre>
p://pandas.pydata.org/">Pandas</a>, <a href="http://ipython.org" class="tag">IPyth
on</a></span>\r\n
                                    <b>Software Development</b>:\r\n
="tag-wrapper"><a class="tag" href="http://buildbot.net/">Buildbot</a>, <a class
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="tag" href="http://trac.edgewall.org/">Trac</a>, <a class="tag" href="http://roun
dup.sourceforge.net/">Roundup</a></span>\r\n <b>System Administration
             <span class="tag-wrapper"><a class="tag" href="http://www.ansibl</pre>
e.com">Ansible</a>, <a class="tag" href="https://saltproject.io">Salt</a>, <a clas
s="tag" href="https://www.openstack.org">OpenStack</a>, <a class="tag" href="http
s://xon.sh">xonsh</a></span>\r\n\n
                                                     </div><!-- end
.shrubbery -->\n
                                                </div>\n\n
                                     <div class="python-logo"></div>\n
<div class="psf-widget">\n\n
                 <h2 class="widget-title">\r\n
                                          <span class="prompt">&gt;&g
t;></span> <a href="/psf/">Python Software Foundation</a>\r\n</h2>\r\nThe mi
ssion of the Python Software Foundation is to promote, protect, and advance the Py
thon programming language, and to support and facilitate the growth of a diverse a
nd international community of Python programmers. <a class="readmore" href="/ps
ons/">Donate to the PSF</a>\r\n\n
                                         </div>\n\n\n\n
</section>\n\n
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              </div><!-- end .container -->\n
                                            </div><!-- end #content .
n\n
content-wrapper -->\n\n
                      <!-- Footer and social media list -->\n
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<footer id="site-map" class="main-footer" role="contentinfo">\n
                                                          <div cl
ass="main-footer-links">\n
                                <div class="container">\n\n
                 <a id="back-to-top-1" class="jump-link" href="#python-networ"</pre>
k"><span aria-hidden="true" class="icon-arrow-up"><span>&#9650;</span></span> Back
to Top</a>\n\n
                          \n\n<ul class="sitemap navigation menu do-not-pr
int" role="tree" id="container">\n
                             \n \n
<a href="/about/" >About</a>\n
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       <a href="/about/apps/" titl</pre>
                                e="">Applications</a>
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tem"><a href="/about/quotes/" title="">Quotes</a>\n
ier-2 element-3" role="treeitem"><a href="/about/gettingstarted/" title="">Getting
Started</a>
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ef="/about/help/" title="">Help</a>\n \n
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ure</a>\n
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ent-2">\n
             <a href="/downloads/" >Downloads</a>\n
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ul class="subnav menu">\n
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m"><a href="/downloads/" title="">All releases</a>\n
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="tier-2 element-2" role="treeitem"><a href="/downloads/source/" title="">Source c
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ode</a>\n
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="/downloads/windows/" title="">Windows</a>\n \n
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element-4" role="treeitem"><a href="/downloads/macos/" title="">macOS</a>\n
       class="tier-2 element-5" role="treeitem"><a href="/downloads/androi</pre>
d/" title="">Android</a>\n \n
                                 eeitem"><a href="/download/other/" title="">Other Platforms</a>
class="tier-2 element-7" role="treeitem"><a href="https://docs.python.org/3/li</pre>
cense.html" title="">License</a>\n
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role="treeitem"><a href="/download/alternatives" title="">Alternative Implementati
ons</a>\n \n\n\n
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                                              <a href="/doc/" >Documentation</a>\n
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class="subnav menu">\n
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a href="/doc/" title="">Docs</a>
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role="treeitem"><a href="/doc/av" title="">Audio/Visual Talks</a>
<a href="https://wiki.python.org/moi</pre>
n/BeginnersGuide" title="">Beginner's Guide</a>\n \n
                                                        class
="tier-2 element-4" role="treeitem"><a href="https://devguide.python.org/" title
="">Developer's Guide</a>
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le="treeitem"><a href="https://docs.python.org/faq/" title="">FAQ</a>\n
class="tier-2 element-6" role="treeitem"><a href="http://wiki.python.org/moin/"</pre>
Languages" title="">Non-English Docs</a>\n \n
                                              class="tier-2 ele">–2 ele
ment-7" role="treeitem"><a href="https://peps.python.org" title="">PEP Index</a>
li>\n \n
              <a href="https://w</pre>
iki.python.org/moin/PythonBooks" title="">Python Books</a>\n
class="tier-2 element-9" role="treeitem"><a href="/doc/essays/" title="">Python Es
says</a>\n
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                                               <a href="/community/" >Community</a>\n
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m"><a href="/community/diversity/" title="">Diversity</a>\n \n
class="tier-2 element-2" role="treeitem"><a href="/community/lists/" title="">Mail
ing Lists</a>\n \n class="tier-2 element-3" role="treeitem"><a
href="/community/irc/" title="">IRC</a>\n \n class="tier-2 elem |
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       class="tier-2 element-5" role="treeitem"><a href="/psf/annual-repor"</pre>
t/2024/" title="">PSF Annual Impact Report</a>\n \n class="tier"
-2 element-6" role="treeitem"><a href="/community/workshops/" title="">Python Conf
erences</a>\n \n
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ef="/community/sigs/" title="">Special Interest Groups</a>\n \n
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on Logo</a>\n \n class="tier-2 element-9" role="treeitem"><a hr
ef="https://wiki.python.org/moin/" title="">Python Wiki</a>\n \n
i class="tier-2 element-10" role="treeitem"><a href="/psf/conduct/" title="">Code
of Conduct</a>\n \n
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a href="/community/awards" title="">Community Awards</a>\n \n
lass="tier-2 element-12" role="treeitem"><a href="/psf/get-involved/" title="">Get
                         <a</pre>
Involved</a>\n
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href="/psf/community-stories/" title="">Shared Stories</a>\n \n\n\n
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                                               <a href="/success-st
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class="subnav menu">\n
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a href="/success-stories/category/arts/" title="">Arts</a>\n
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<a href="/blogs/" title="News from around the Python world">News</a>\n
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                                eitem"><a href="/blogs/" title="Python Insider Blog Posts">Python News</a>
       <a href="/psf/newsletter/"</pre>
title="Python Software Foundation Newsletter">PSF Newsletter</a>
class="tier-2 element-3" role="treeitem"><a href="http://pyfound.blogspot.co"</pre>
m/" title="PSF Blog">PSF News</a>\n \n class="tier-2 element-4"
role="treeitem"><a href="http://pycon.blogspot.com/" title="PyCon Blog">PyCon US N
ews</a>\n \n class="tier-2 element-5" role="treeitem"><a href
="http://planetpython.org/" title="Planet Python">News from the Community</a>
    \n\n
                              \n \n
<a href="/events/" >Events</a>\n
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<a href="/events/pyth</pre>
on-events/" title="">Python Events</a>\n \n <li class="tier-2 eleme
nt-2" role="treeitem"><a href="/events/python-user-group/" title="">User Group Eve
                       <a href</pre>
="/events/python-events/past/" title="">Python Events Archive</a>
class="tier-2 element-4" role="treeitem"><a href="/events/python-user-group/pa</pre>
st/" title="">User Group Events Archive</a>\n \n
                                                      class="tier-2">
element-5" role="treeitem"><a href="https://wiki.python.org/moin/PythonEventsCalen
dar#Submitting an Event" title="">Submit an Event</a>\n \n\n\n
     \n \n
                   \n
                                                      <a href="/dev/" >Con
tributing</a>\n
                                \n\n\n
                    \n
li class="tier-2 element-1" role="treeitem"><a href="https://devguide.python.org/"</pre>
title="">Developer's Guide</a>\n \n
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ue Tracker</a>\n \n class="tier-2 element-3" role="treeitem"><a
href="https://mail.python.org/mailman/listinfo/python-dev" title="">python-dev lis
t</a>\n \n class="tier-2 element-4" role="treeitem"><a href="/d
ev/core-mentorship/" title="">Core Mentorship</a>
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ier-2 element-5" role="treeitem"><a href="/dev/security/" title="">Report a Securi
ty Issue</a>\n \n\n\n
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<a id="back-to-top-2" class="jump-link" href="#python-network"><span aria-hidden</pre>
="true" class="icon-arrow-up"><span>&#9650;</span></span> Back to Top</a>\n
n\n
                 </div><!-- end .container -->\n
                                                      </div> <!-- end .ma
in-footer-links -->\n\n
                              <div class="site-base">\n
                                                                  <div c
lass="container">\n
                                                     ks navigation menu do-not-print" role="tree">\n
                                                              class
="tier-1 element-1"><a href="/about/help/">Help &amp; <span class="say-no-more">Ge
neral</span> Contact</a>
                                                2"><a href="/community/diversity/">Diversity <span class="say-no-more">Initiatives
</span></a>\n
                                    <a href="ht</pre>
tps://github.com/python/pythondotorg/issues">Submit Website Bug</a>
\n
                                                   <a href="https://statu</pre>
s.python.org/">Status <span class="python-status-indicator-default" id="python-sta</pre>
tus-indicator"></span></a>\n
                                                                     </u
                                             \n
                      <div class="copyright">\n
                                                                 <sma
1>\n\n
                            <span class="pre">Copyright &copy;2001-2025.</spa</pre>
11>\n
n>\n
                            <span class="pre"><a href="/psf-landing/">Py
thon Software Foundation</a></span>\n
                                                         <span class</pre>
="pre"><a href="/about/legal/">Legal Statements</a></span>\n
 <span class="pre"><a href="https://policies.python.org/python.org/Privacy-No</pre>
tice/">Privacy Notice</a></span>\n
                                                      <!--&nbsp;<span clas
s="pre"><a href="/psf/community-infrastructure">Powered by PSF Community Infrastru
                                       </small>\n
cture</a></span>-->\n
                    </div><!-- end .container -->\n
iv>\n\n
                                                         </div><!-- end .
site-base -->\n\n
                     </footer>\n
                                      n\n
                                            </div><!-- end #touchnav-wrapp
                 <script src="//ajax.googleapis.com/ajax/libs/jquery/1.8.2/jque</pre>
er -->\n\n
            \n
ry.min.js"></script>\n <script>window.jQuery || document.write(\'<script src="/
static/js/libs/jquery-1.8.2.min.js"><\\/script>\\')</script>\n <script src="//aj
ax.googleapis.com/ajax/libs/jqueryui/1.12.1/jquery-ui.min.js"></script>\n
pt>window.jQuery || document.write(\'<script src="/static/js/libs/jquery-ui-1.12.</pre>
1.min.js"><\\/script>\')</script>\n\n
                                 <script src="/static/js/libs/masonry.pkg</pre>
<script type="text/javascript" src="/static/js/main-min.ef82c06437cf.js" c</pre>
harset="utf-8"></script>\n \n\n <!--[if lte IE 7]>\n
                                                     <script type="text/j</pre>
avascript" src="/static/js/plugins/IE8-min.8af6e26c7a3b.js" charset="utf-8"></scri
                  <![endif]-->\n\n <!--[if lte IE 8]>\n
pt>\n
                                                        <script type="tex</pre>
```

```
\n</html>\n'
In [6]: #title
library.select("title")[0].getText()

Out[6]: 'Welcome to Python.org'

In [4]: import bs4
library=bs4.BeautifulSoup(python.text ,"lxml")
print(library)
```

t/javascript" src="/static/js/plugins/getComputedStyle-min.d41d8cd98f00.js" charse t="utf-8"></script>\n \n \n \(\(\c|\)[endif]-->\n\n \n \n \\n\)

```
<!DOCTYPE html>
<!--[if lt IE 7]> <html class="no-js ie6 lt-ie7 lt-ie8 lt-ie9"> <![endif]--><!--
               <html class="no-js ie7 lt-ie8 lt-ie9">
[if IE 7]>
                                                              <![endif]--><!--[if
            <html class="no-js ie8 lt-ie9">
                                                             <![endif]--><!--[if gt I
E 8]><!--><html class="no-js" dir="ltr" lang="en"> <!--<![endif]-->
<head>
<script data-domain="python.org" defer="" src="https://analytics.python.org/js/scrip</pre>
t.outbound-links.js"></script>
<meta charset="utf-8"/>
<meta content="IE=edge" http-equiv="X-UA-Compatible"/>
<link href="//ajax.googleapis.com/ajax/libs/jquery/1.8.2/jquery.min.js" rel="prefetc</pre>
<link href="//ajax.googleapis.com/ajax/libs/jqueryui/1.12.1/jquery-ui.min.js" rel="p</pre>
<meta content="Python.org" name="application-name"/>
<meta content="The official home of the Python Programming Language" name="msapplica"</pre>
tion-tooltip"/>
<meta content="Python.org" name="apple-mobile-web-app-title"/>
<meta content="yes" name="apple-mobile-web-app-capable"/>
<meta content="black" name="apple-mobile-web-app-status-bar-style"/>
<meta content="width=device-width, initial-scale=1.0" name="viewport"/>
<meta content="True" name="HandheldFriendly"/>
<meta content="telephone=no" name="format-detection"/>
<meta content="on" http-equiv="cleartype"/>
<meta content="false" http-equiv="imagetoolbar"/>
<script async="" crossorigin="anonymous" integrity="sha256-U3hKDidudIaxBDEzwGJApJgPE</pre>
f2mWk6cfMWghrAa6i0= sha384-UcmsCqcNRSLW/dV3Lo1oCi2/VaurXbib6p4HyUEOeIa/4OpsrnucrugAe
fzVZJfI sha512-q4t1L4xEjGV2R4hzqCa41P8jrgFUS8xTb8rdNv4FGvw7FpydVj/kkxBJHOiaoxHa8olCc
x1Slk9K+3sNbsM4ug==" src="https://media.ethicalads.io/media/client/v1.4.0/ethicalad
s.min.js"></script>
<script src="/static/js/libs/modernizr.js"></script>
<link href="/static/stylesheets/style.08a078d0aa02.css" media="all" rel="stylesheet"</pre>
title="default" type="text/css"/>
<link href="/static/stylesheets/mq.98d6092b2ada.css" media="not print, braille, embo</pre>
ssed, speech, tty" rel="stylesheet" type="text/css"/>
<link href="/static/stylesheets/no-mq.bf0c425cdb73.css" media="screen" rel="styleshe</pre>
et" type="text/css"/>
<!--[if (lte IE 8)&(!IEMobile)]>
    <link href="/static/stylesheets/no-mq.bf0c425cdb73.css" rel="stylesheet" type="t</pre>
ext/css" media="screen" />
    <![endif]-->
<link href="//ajax.googleapis.com/ajax/libs/jqueryui/1.12.1/themes/smoothness/jquery</pre>
-ui.css" rel="stylesheet"/>
<link href="/static/favicon.ico" rel="icon" type="image/x-icon"/>
<link href="/static/apple-touch-icon-144x144-precomposed.png" rel="apple-touch-icon-</pre>
precomposed" sizes="144x144"/>
<link href="/static/apple-touch-icon-114x114-precomposed.png" rel="apple-touch-icon-</pre>
precomposed" sizes="114x114"/>
<link href="/static/apple-touch-icon-72x72-precomposed.png" rel="apple-touch-icon-pr</pre>
ecomposed" sizes="72x72"/>
<link href="/static/apple-touch-icon-precomposed.png" rel="apple-touch-icon-precompo</pre>
sed"/>
<link href="/static/apple-touch-icon-precomposed.png" rel="apple-touch-icon"/>
<meta content="/static/metro-icon-144x144.png" name="msapplication-TileImage"/><!--</pre>
```

```
white shape -->
<meta content="#3673a5" name="msapplication-TileColor"/><!-- python blue -->
<meta content="#3673a5" name="msapplication-navbutton-color"/>
<title>Welcome to Python.org</title>
<meta content="The official home of the Python Programming Language" name="descripti</pre>
on"/>
<meta content="Python programming language object oriented web free open source soft</pre>
ware license documentation download community" name="keywords"/>
<meta content="website" property="og:type"/>
<meta content="Python.org" property="og:site_name"/>
<meta content="Welcome to Python.org" property="og:title"/>
<meta content="The official home of the Python Programming Language" property="og:de</pre>
scription"/>
<meta content="https://www.python.org/static/opengraph-icon-200x200.png" property="o</pre>
<meta content="https://www.python.org/static/opengraph-icon-200x200.png" property="o</pre>
g:image:secure_url"/>
<meta content="https://www.python.org/" property="og:url"/>
<link href="/humans.txt" rel="author"/>
<link href="https://peps.python.org/peps.rss" rel="alternate" title="Python Enhancem</pre>
ent Proposals" type="application/rss+xml"/>
<link href="https://www.python.org/jobs/feed/rss/" rel="alternate" title="Python Job</pre>
Opportunities" type="application/rss+xml"/>
<link href="https://feeds.feedburner.com/PythonSoftwareFoundationNews" rel="alternat</pre>
e" title="Python Software Foundation News" type="application/rss+xml"/>
<link href="https://feeds.feedburner.com/PythonInsider" rel="alternate" title="Pytho</pre>
n Insider" type="application/rss+xml"/>
<link href="https://www.python.org/downloads/feed.rss" rel="alternate" title="Python</pre>
Releases" type="application/rss+xml"/>
<script type="application/ld+json">
     {
       "@context": "https://schema.org",
       "@type": "WebSite",
       "url": "https://www.python.org/",
       "potentialAction": {
         "@type": "SearchAction",
         "target": "https://www.python.org/search/?q={search_term_string}",
         "query-input": "required name=search_term_string"
       }
     }
    </script>
<script type="text/javascript">
    var _gaq = _gaq || [];
    _gaq.push(['_setAccount', 'UA-39055973-1']);
    _gaq.push(['_trackPageview']);
    (function() {
        var ga = document.createElement('script'); ga.type = 'text/javascript'; ga.a
sync = true;
        ga.src = ('https:' == document.location.protocol ? 'https://ssl' : 'http://w
ww') + '.google-analytics.com/ga.js';
        var s = document.getElementsByTagName('script')[0]; s.parentNode.insertBefor
e(ga, s);
    })();
    </script>
</head>
```

```
<body class="python home" id="homepage">
<div id="touchnav-wrapper">
<div class="do-not-print" id="nojs">
<strong>Notice:</strong> While JavaScript is not essential for this website, your
interaction with the content will be limited. Please turn JavaScript on for the full
experience. 
</div>
<!--[if lte IE 8]>
       <div id="oldie-warning" class="do-not-print">
              <strong>Notice:</strong> Your browser is <em>ancient</em>. Please
              <a href="http://browsehappy.com/">upgrade to a different browser</a>
to experience a better web.
          </div>
       <![endif]-->
<!-- Sister Site Links -->
<div class="top-bar do-not-print" id="top">
<nav class="meta-navigation container" role="navigation">
<div class="skip-link screen-reader-text">
<a href="#content" title="Skip to content">Skip to content</a>
</div>
<a aria-hidden="true" class="jump-link" href="#python-network" id="close-python-netw</pre>
ork">
<span aria-hidden="true" class="icon-arrow-down"><span>▼</span></spa>> Close
              </a>
<a class="current_item selectedcurrent_branch selected" href="/" title="The Python P</pre>
rogramming Language">Python</a>
class="psf-meta">
<a href="https://www.python.org/psf/" title="The Python Software Foundation">PSF</a>
<a href="https://docs.python.org" title="Python Documentation">Docs</a>
<a href="https://pypi.org/" title="Python Package Index">PyPI</a>
<a href="/jobs/" title="Python Job Board">Jobs</a>
<a href="/community/">Community</a>
<a aria-hidden="true" class="jump-link" href="#top" id="python-network">
<span aria-hidden="true" class="icon-arrow-up"><span>▲</span></span> The Python Netw
              </a>
</nav>
</div>
<!-- Header elements -->
<header class="main-header" role="banner">
<div class="container">
```

```
<h1 class="site-headline">
<a href="/"><img alt="python™" class="python-logo" src="/static/img/python-logo.pn
g"/></a>
</h1>
<div class="options-bar-container do-not-print">
<a class="donate-button" href="https://psfmember.org/civicrm/contribute/transact?res</pre>
et=1&id=2">Donate</a>
<div class="options-bar">
<a class="jump-to-menu" href="#site-map" id="site-map-link"><span class="menu-icon">
=</span> Menu</a><form action="/search/" class="search-the-site" method="get">
<fieldset title="Search Python.org">
<span aria-hidden="true" class="icon-search"></span>
<label class="screen-reader-text" for="id-search-field">Search This Site</label>
<input class="search-field" id="id-search-field" name="q" placeholder="Search" role</pre>
="textbox" tabindex="1" type="search" value=""/>
<button class="search-button" id="submit" name="submit" tabindex="3" title="Submit t</pre>
his Search" type="submit">
                                 GO
                             </button>
<!--[if IE]><input type="text" style="display: none;" disabled="disabled" size="1" t
abindex="4"><![endif]-->
</fieldset>
</form><span class="breaker"></span><div aria-hidden="true" class="adjust-font-siz
aria-haspopup="true" class="tier-1 last">
<a class="action-trigger" href="#"><strong><small>A</small> A</strong></a>
class="tier-2 element-1" role="treeitem"><a class="text-shrink" href="javascrip"</pre>
t:;" title="Make Text Smaller">Smaller</a>
class="tier-2 element-2" role="treeitem"><a class="text-grow" href="javascrip"</pre>
t:;" title="Make Text Larger">Larger</a>
class="tier-2 element-3" role="treeitem"><a class="text-reset" href="javascrip"</pre>
t:;" title="Reset any font size changes I have made">Reset</a>
</div><div class="winkwink-nudgenudge">
aria-haspopup="true" class="tier-1 last">
<a class="action-trigger" href="#">Socialize</a>
class="tier-2 element-1" role="treeitem"><a href="https://www.linkedin.com/compa</pre>
ny/python-software-foundation/"><i aria-hidden="true" class="fa fa-linkedin-square">
</i>LinkedIn</a>
class="tier-2 element-2" role="treeitem"><a href="https://fosstodon.org/@ThePS">
F"><span aria-hidden="true" class="icon-mastodon"></span>Mastodon</a>
class="tier-2 element-3" role="treeitem"><a href="/community/irc/"><span aria-hi</pre>
dden="true" class="icon-freenode"></span>Chat on IRC</a>
class="tier-2 element-4" role="treeitem"><a href="https://twitter.com/ThePSF"><s</pre>
pan aria-hidden="true" class="icon-twitter"></span>Twitter</a>
<span data-html-include="/authenticated"></span>
```

```
</div><!-- end options-bar -->
<nav class="python-navigation main-navigation do-not-print" id="mainnav" role="navig</pre>
aria-haspopup="true" class="tier-1 element-1" id="about">
<a class="" href="/about/" title="">About</a>
class="tier-2 element-1" role="treeitem"><a href="/about/apps/" title="">Applica
tions</a>
class="tier-2 element-2" role="treeitem"><a href="/about/quotes/" title="">Quote
s</a>
class="tier-2 element-3" role="treeitem"><a href="/about/gettingstarted/" title</pre>
="">Getting Started</a>
class="tier-2 element-4" role="treeitem"><a href="/about/help/" title="">Help</a</pre>
>
<a href="http://brochure.getpython.inf"</pre>
o/" title="">Python Brochure</a>
aria-haspopup="true" class="tier-1 element-2" id="downloads">
<a class="" href="/downloads/" title="">Downloads</a>
class="tier-2 element-1" role="treeitem"><a href="/downloads/" title="">All rele
ases</a>
class="tier-2 element-2" role="treeitem"><a href="/downloads/source/" title="">S
ource code</a>
<a href="/downloads/windows/" title="">
Windows</a>
class="tier-2 element-4" role="treeitem"><a href="/downloads/macos/" title="">ma
cOS</a>
class="tier-2 element-5" role="treeitem"><a href="/downloads/android/" title="">
Android</a>
class="tier-2 element-6" role="treeitem"><a href="/download/other/" title="">Oth
er Platforms</a>
<a href="https://docs.python.org/3/lice">
nse.html" title="">License</a>
class="tier-2 element-8" role="treeitem"><a href="/download/alternatives" title</pre>
="">Alternative Implementations</a>
aria-haspopup="true" class="tier-1 element-3" id="documentation">
<a class="" href="/doc/" title="">Documentation</a>
class="tier-2 element-1" role="treeitem"><a href="/doc/" title="">Docs</a>
class="tier-2 element-2" role="treeitem"><a href="/doc/av" title="">Audio/Visual
Talks</a>
<a href="https://wiki.python.org/moin/B"</pre>
eginnersGuide" title="">Beginner's Guide</a>
class="tier-2 element-4" role="treeitem"><a href="https://devguide.python.org/"</pre>
title="">Developer's Guide</a>
class="tier-2 element-5" role="treeitem"><a href="https://docs.python.org/faq/"</pre>
title="">FAQ</a>
class="tier-2 element-6" role="treeitem"><a href="http://wiki.python.org/moin/La</pre>
nguages" title="">Non-English Docs</a>
class="tier-2 element-7" role="treeitem"><a href="https://peps.python.org" title</pre>
```

```
="">PEP Index</a>
<a href="https://wiki.python.org/moin/P</pre>
ythonBooks" title="">Python Books</a>
class="tier-2 element-9" role="treeitem"><a href="/doc/essays/" title="">Python
Essays</a>
aria-haspopup="true" class="tier-1 element-4" id="community">
<a class="" href="/community/" title="">Community</a>
class="tier-2 element-1" role="treeitem"><a href="/community/diversity/" title</pre>
="">Diversity</a>
class="tier-2 element-2" role="treeitem"><a href="/community/lists/" title="">Ma
iling Lists</a>
class="tier-2 element-3" role="treeitem"><a href="/community/irc/" title="">IRC
</a>
class="tier-2 element-4" role="treeitem"><a href="/community/forums/" title="">F
orums</a>
class="tier-2 element-5" role="treeitem"><a href="/psf/annual-report/2024/" titl</pre>
e="">PSF Annual Impact Report</a>
class="tier-2 element-6" role="treeitem"><a href="/community/workshops/" title</pre>
="">Python Conferences</a>
class="tier-2 element-7" role="treeitem"><a href="/community/sigs/" title="">Spe
cial Interest Groups</a>
class="tier-2 element-8" role="treeitem"><a href="/community/logos/" title="">Py
thon Logo</a>
<a href="https://wiki.python.org/moin/"</pre>
title="">Python Wiki</a>
class="tier-2 element-10" role="treeitem"><a href="/psf/conduct/" title="">Code
of Conduct</a>
class="tier-2 element-11" role="treeitem"><a href="/community/awards" title="">C
ommunity Awards</a>
class="tier-2 element-12" role="treeitem"><a href="/psf/get-involved/" title="">
Get Involved</a>
class="tier-2 element-13" role="treeitem"><a href="/psf/community-stories/" titl</pre>
e="">Shared Stories</a>
aria-haspopup="true" class="tier-1 element-5" id="success-stories">
<a class="" href="/success-stories/" title="success-stories">Success Stories</a>
class="tier-2 element-1" role="treeitem"><a href="/success-stories/category/art")</pre>
s/" title="">Arts</a>
class="tier-2 element-2" role="treeitem"><a href="/success-stories/category/busi</pre>
ness/" title="">Business</a>
class="tier-2 element-3" role="treeitem"><a href="/success-stories/category/educ"><a href="/success-storie
ation/" title="">Education</a>
class="tier-2 element-4" role="treeitem"><a href="/success-stories/category/engi</pre>
neering/" title="">Engineering</a>
class="tier-2 element-5" role="treeitem"><a href="/success-stories/category/gove">
rnment/" title="">Government</a>
class="tier-2 element-6" role="treeitem"><a href="/success-stories/category/scie">
ntific/" title="">Scientific</a>
class="tier-2 element-7" role="treeitem"><a href="/success-stories/category/soft">
ware-development/" title="">Software Development</a>
```

```
aria-haspopup="true" class="tier-1 element-6" id="news">
<a class="" href="/blogs/" title="News from around the Python world">News</a>
class="tier-2 element-1" role="treeitem"><a href="/blogs/" title="Python Insider</pre>
Blog Posts">Python News</a>
class="tier-2 element-2" role="treeitem"><a href="/psf/newsletter/" title="Pytho">
n Software Foundation Newsletter">PSF Newsletter</a>
class="tier-2 element-3" role="treeitem"><a href="http://pyfound.blogspot.com/"</pre>
title="PSF Blog">PSF News</a>
class="tier-2 element-4" role="treeitem"><a href="http://pycon.blogspot.com/" ti</pre>
tle="PyCon Blog">PyCon US News</a>
class="tier-2 element-5" role="treeitem"><a href="http://planetpython.org/" titl</pre>
e="Planet Python">News from the Community</a>
aria-haspopup="true" class="tier-1 element-7" id="events">
<a class="" href="/events/" title="">Events</a>
class="tier-2 element-1" role="treeitem"><a href="/events/python-events/" title</pre>
="">Python Events</a>
<a href="/events/python-user-group/" ti</pre>
tle="">User Group Events</a>
class="tier-2 element-3" role="treeitem"><a href="/events/python-events/past/" t</pre>
itle="">Python Events Archive</a>
class="tier-2 element-4" role="treeitem"><a href="/events/python-user-group/pas">
t/" title="">User Group Events Archive</a>
class="tier-2 element-5" role="treeitem"><a href="https://wiki.python.org/moin/P"</pre>
ythonEventsCalendar#Submitting_an_Event" title="">Submit an Event</a>
</nav>
<div class="header-banner"> <!-- for optional "do-not-print" class -->
<div class="flex-slideshow slideshow" id="dive-into-python">
<a class="button prompt" data-shell-container="#dive-into-python" href="/shell/" id</pre>
="start-shell">>_
                    <span class="message">Launch Interactive Shell</span>
</a>
<div class="slide-code"><code><span class="comment"># Python 3: Fibonacci serie
s up to n</span>
>>> def fib(n):
>>> a, b = 0, 1
>>>
             while a < n:
                 print(a, end=' ')
>>>
>>>
                 a, b = b, a+b
>>>
             print()
>>> fib(1000)
<span class="output">0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987
</div>
```

```
<div class="slide-copy"><h1>Functions Defined</h1>
The core of extensible programming is defining functions. Python allows mandatory
and optional arguments, keyword arguments, and even arbitrary argument lists. <a hre
f="//docs.python.org/3/tutorial/controlflow.html#defining-functions">More about defi
ning functions in Python 3</a></div>
<
<div class="slide-code"><code><span class="comment"># Python 3: List comprehens
>> > fruits = ['Banana', 'Apple', 'Lime']
>>> loud_fruits = [fruit.upper() for fruit in fruits]
>>> print(loud_fruits)
<span class="output">['BANANA', 'APPLE', 'LIME']</span>
<span class="comment"># List and the enumerate function/span>
>>> list(enumerate(fruits))
<span class="output">[(0, 'Banana'), (1, 'Apple'), (2, 'Lime')]</span></code>
</div>
<div class="slide-copy"><h1>Compound Data Types</h1>
Lists (known as arrays in other languages) are one of the compound data types tha
t Python understands. Lists can be indexed, sliced and manipulated with other built-
in functions. <a href="//docs.python.org/3/tutorial/introduction.html#lists">More ab
out lists in Python 3</a></div>
<
<div class="slide-code"><code><span class="comment"># Python 3: Simple arithmet
ic</span>
>>> 1 / 2
<span class="output">0.5</span>
>>> 2 ** 3
<span class="output">8</span>
>> > 17 / 3 <span class="comment"># classic division returns a float</span>
<span class="output">5.666666666666667</span>
>>> 17 // 3 <span class="comment"># floor division</span>
<span class="output">5</span></code></div>
<div class="slide-copy"><h1>Intuitive Interpretation</h1>
Calculations are simple with Python, and expression syntax is straightforward: th
e operators <code>+</code>, <code>-</code> and <code>/</code> work a
s expected; parentheses <code>()</code> can be used for grouping. <a href="http://do
cs.python.org/3/tutorial/introduction.html#using-python-as-a-calculator">More about
simple math functions in Python 3</a>.</div>
<div class="slide-code"><code><span class="comment"># For loop on a list</span>
>>> numbers = [2, 4, 6, 8]
>>> product = 1
>>> for number in numbers:
      product = product * number
. . .
>>> print('The product is:', product)
<span class="output">The product is: 384</span></code></div>
<div class="slide-copy"><h1>All the Flow You'd Expect</h1>
Python knows the usual control flow statements that other languages speak — <code</p>
>if</code>, <code>for</code>, <code>while</code> and <code>range</code> - with some
of its own twists, of course. <a href="//docs.python.org/3/tutorial/controlflow.htm"
1">More control flow tools in Python 3</a></div>
```

```
<
<div class="slide-code"><code><span class="comment"># Simple output (with Unico)
>>> print("Hello, I'm Python!")
<span class="output">Hello, I'm Python!</span>
<span class="comment"># Input, assignment</span>
>> kgt; name = input('What is your name?\n')
<span class="output">What is your name?
Python</span>
>>> print(f'Hi, {name}.')
<span class="output">Hi, Python.</span></code>
</div>
<div class="slide-copy"><h1>Quick &amp; Easy to Learn</h1>
Experienced programmers in any other language can pick up Python very quickly, an
d beginners find the clean syntax and indentation structure easy to learn. <a href
="//docs.python.org/3/tutorial/">Whet your appetite</a> with our Python 3 overview.
</div>
</div>
</div>
<div class="introduction">
Python is a programming language that lets you work quickly <span class="breake"</p>
r"></span>and integrate systems more effectively. <a class="readmore" href="/doc/">L
earn More</a>
</div>
</div><!-- end .container -->
</header>
<div class="content-wrapper" id="content">
<!-- Main Content Column -->
<div class="container">
<section class="main-content" role="main">
<div class="row">
<div class="small-widget get-started-widget">
<h2 class="widget-title"><span aria-hidden="true" class="icon-get-started"></span>Ge
t Started</h2>
Whether you're new to programming or an experienced developer, it's easy to learn
and use Python.
<a href="/about/gettingstarted/">Start with our Beginner's Guide</a>
</div>
<div class="small-widget download-widget">
<h2 class="widget-title"><span aria-hidden="true" class="icon-download"></span>Downl
oad</h2>
Python source code and installers are available for download for all versions!
Latest: <a href="/downloads/release/python-3137/">Python 3.13.7</a>
</div>
<div class="small-widget documentation-widget">
<h2 class="widget-title"><span aria-hidden="true" class="icon-documentation"></span>
Docs</h2>
>Documentation for Python's standard library, along with tutorials and guides, are
available online.
<a href="https://docs.python.org">docs.python.org</a>
<div class="small-widget jobs-widget last">
```

```
<h2 class="widget-title"><span aria-hidden="true" class="icon-jobs"></span>Jobs</h2>
Looking for work or have a Python related position that you're trying to hire for
r? Our <strong>relaunched community-run job board</strong> is the place to go.
<a href="//jobs.python.org">jobs.python.org</a>
</div>
</div>
<div class="list-widgets row">
<div class="medium-widget blog-widget">
<div class="shrubbery">
<h2 class="widget-title"><span aria-hidden="true" class="icon-news"></span>Latest Ne
ws</h2>
<a href="https://blog.python.org" title="More News">More</a>
<time datetime="2025-08-18T13:06:00+00:00"><span class="say-no-more">2025-</span>08-
<a href="https://pyfound.blogspot.com/2025/08/the-2024-python-developer-survey.htm"><a href="https://pyfound.blogspot.com/2025/08/the-2025/08/the-2025/08/the-2025/08/the-2025/08/the-2025/08/the-2025/08/the-2025/08/the-2025/08/the-2025/08/the-2025/08/the-2025/08/the-2025/08/the
1">The 2024 Python Developer Survey Results are here!</a>
<time datetime="2025-08-14T19:15:00.000003+00:00"><span class="say-no-more">2025-</s</pre>
pan>08-14</time>
<a href="https://pythoninsider.blogspot.com/2025/08/python-3140rc2-and-3137-are-go.h</pre>
tml">Python 3.14.0rc2 and 3.13.7 are go!</a>
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pan>08-14</time>
<a href="https://pyfound.blogspot.com/2025/08/announcing-psf-board-candidates-for-20</pre>
25.html">Announcing the PSF Board Candidates for 2025!</a>
<time datetime="2025-08-08T12:47:00.000004+00:00"><span class="say-no-more">2025-</s</pre>
pan>08-08</time>
<a href="https://pyfound.blogspot.com/2025/08/announcing-python-software-foundation.</pre>
html">Announcing Python Software Foundation Fellow Members for Q2 2025! 🎉 </a>
<time datetime="2025-08-07T12:45:00.000003+00:00"><span class="say-no-more">2025-</s</pre>
pan>08-07</time>
<a href="https://pyfound.blogspot.com/2025/08/unmasking-phantom-dependencies-with.ht"
ml">Unmasking Phantom Dependencies with Software Bill-of-Materials as Ecosystem Neut
ral Metadata</a>
</div><!-- end .shrubbery -->
<div class="medium-widget event-widget last">
<div class="shrubbery">
<h2 class="widget-title"><span aria-hidden="true" class="icon-calendar"></span>Upcom
ing Events</h2>
<a href="/events/calendars/" title="More Events">More</a></p
<
<time datetime="2025-08-23T00:00:00+00:00"><span class="say-no-more">2025-</span>08-
23</time>
<a href="/events/python-events/2071/">StatusCode 2 Hackathon</a>
<time datetime="2025-08-23T00:00:00+00:00"><span class="say-no-more">2025-</span>08-
```

```
23</time>
<a href="/events/python-events/2009/">PyCon Togo 2025</a>
<
<time datetime="2025-08-26T16:00:00+00:00"><span class="say-no-more">2025-</span>08-
26</time>
<a href="/events/python-user-group/2091/">PyLadies Amsterdam: Data science that ship
s: production-ready pipelines with Kedro</a>
<
<time datetime="2025-08-28T00:00:00+00:00"><span class="say-no-more">2025-</span>08-
28</time>
<a href="/events/python-events/2027/">PyCon Kenya 2025</a>
<1i>>
<time datetime="2025-08-28T00:00:00+00:00"><span class="say-no-more">2025-</span>08-
<a href="/events/python-events/2020/">PyCon Poland 2025</a>
</div>
</div>
</div>
<div class="row">
<div class="medium-widget success-stories-widget">
<div class="shrubbery">
<h2 class="widget-title"><span aria-hidden="true" class="icon-success-stories"></spa</pre>
n>Success Stories</h2>
<a href="/success-stories/" title="More Success Stories">Mor
<div class="success-story-item" id="success-story-1180">
<blookquote>
<a href="/success-stories/using-python-with-gretelai-to-generate-synthetic-location-</pre>
data/">Generating realistic location data for users for testing or modeling simulati
ons is a hard problem. Current approaches just create random locations inside a box,
placing users in waterways or on top of buildings. This inability to make accurate,
synthetic location data stifles a lot of innovative projects that require diverse an
d complex datasets to fuel their work.</a>
</blockquote>
<a href="/success-stories/using-python-with-gretelai-to-generate-synthetic-lo
cation-data/">Using Python with Gretel.ai to Generate Synthetic Location Data</a> <e
m>by Alex Watson, co-founder and CPO, Gretel.ai
</div>
</div><!-- end .shrubbery -->
</div>
<div class="medium-widget applications-widget last">
<div class="shrubbery">
<h2 class="widget-title"><span aria-hidden="true" class="icon-python"></span>Use Pyt
hon for...</h2>
<a href="/about/apps" title="More Applications">More</a>
<b>Web Development</b>:
       <span class="tag-wrapper"><a class="tag" href="http://www.djangoproject.co"</pre>
m/">Django</a>, <a class="tag" href="http://www.pylonsproject.org/">Pyramid</a>, <a
```

```
class="tag" href="http://bottlepy.org">Bottle</a>, <a class="tag" href="http://torna
doweb.org">Tornado</a>, <a class="tag" href="http://flask.pocoo.org/">Flask</a>, <a</pre>
class="tag" href="http://www.web2py.com/">web2py</a></span>
<b>GUI Development</b>:
       <span class="tag-wrapper"><a class="tag" href="http://wiki.python.org/moin/T</pre>
kInter">tkInter</a>, <a class="tag" href="https://wiki.gnome.org/Projects/PyGObjec
t">PyGObject</a>, <a class="tag" href="http://www.riverbankcomputing.co.uk/software/
pyqt/intro">PyQt</a>, <a class="tag" href="https://wiki.qt.io/PySide">PySide</a>, <a</pre>
class="tag" href="https://kivy.org/">Kivy</a>, <a class="tag" href="http://www.wxpyt
hon.org/">wxPython</a>, <a class="tag" href="https://dearpygui.readthedocs.io/en/lat
est/">DearPyGui</a></span>
<b>Scientific and Numeric</b>:
       <span class="tag-wrapper">
<a class="tag" href="http://www.scipy.org">SciPy</a>, <a class="tag" href="http://pa</pre>
ndas.pydata.org/">Pandas</a>, <a class="tag" href="http://ipython.org">IPython</a></
span>
<b>Software Development</b>:
       <span class="tag-wrapper"><a class="tag" href="http://buildbot.net/">Buildbo
t</a>, <a class="tag" href="http://trac.edgewall.org/">Trac</a>, <a class="tag" href
="http://roundup.sourceforge.net/">Roundup</a></span>
<b>System Administration</b>:
       <span class="tag-wrapper"><a class="tag" href="http://www.ansible.com">Ansib
le</a>, <a class="tag" href="https://saltproject.io">Salt</a>, <a class="tag" href</pre>
="https://www.openstack.org">OpenStack</a>, <a class="tag" href="https://xon.sh">xon
sh</a></span>
</div><!-- end .shrubbery -->
</div>
</div>
<div class="psf-widget">
<div class="python-logo"></div>
<h2 class="widget-title">
<span class="prompt">&gt;&gt;&gt;</span> <a href="/psf/">Python Software Foundation
</a>
</h2>
The mission of the Python Software Foundation is to promote, protect, and advance
the Python programming language, and to support and facilitate the growth of a diver
se and international community of Python programmers. <a class="readmore" href="/ps
f/">Learn more</a> 
<a class="button" href="/psf/membership/">Become a Member</a>
<a class="button" href="/psf/donations/">Donate to the PSF</a>
</div>
</section>
</div><!-- end .container -->
</div><!-- end #content .content-wrapper -->
<!-- Footer and social media list -->
<footer class="main-footer" id="site-map" role="contentinfo">
<div class="main-footer-links">
<div class="container">
<a class="jump-link" href="#python-network" id="back-to-top-1"><span aria-hidden="tr</pre>
ue" class="icon-arrow-up"><span>▲</span></span> Back to Top</a>
<a href="/about/">About</a>
```

```
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tions</a>
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s</a>
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o/" title="">Python Brochure</a>
<a href="/downloads/">Downloads</a>
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ases</a>
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er Platforms</a>
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Talks</a>
<a href="https://wiki.python.org/moin/B</pre>
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title="">Developer's Guide</a>
<a href="https://docs.python.org/faq/"</pre>
title="">FAQ</a>
class="tier-2 element-6" role="treeitem"><a href="http://wiki.python.org/moin/La</pre>
nguages" title="">Non-English Docs</a>
class="tier-2 element-7" role="treeitem"><a href="https://peps.python.org" title</pre>
="">PEP Index</a>
class="tier-2 element-8" role="treeitem"><a href="https://wiki.python.org/moin/P"</pre>
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class="tier-2 element-9" role="treeitem"><a href="/doc/essays/" title="">Python
Essays</a>
```

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class="tier-2 element-2" role="treeitem"><a href="/community/lists/" title="">Ma
iling Lists</a>
class="tier-2 element-3" role="treeitem"><a href="/community/irc/" title="">IRC
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orums</a>
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e="">PSF Annual Impact Report</a>
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="">Python Conferences</a>
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cial Interest Groups</a>
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thon Logo</a>
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Get Involved</a>
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ware-development/" title="">Software Development</a>
<a href="/blogs/" title="News from around the Python world">News</a>
class="tier-2 element-1" role="treeitem"><a href="/blogs/" title="Python Insider</pre>
Blog Posts">Python News</a>
class="tier-2 element-2" role="treeitem"><a href="/psf/newsletter/" title="Pytho</pre>
```

```
n Software Foundation Newsletter">PSF Newsletter</a>
<a href="http://pyfound.blogspot.com/"</pre>
title="PSF Blog">PSF News</a>
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tle="PyCon Blog">PyCon US News</a>
class="tier-2 element-5" role="treeitem"><a href="http://planetpython.org/" titl</pre>
e="Planet Python">News from the Community</a>
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class="tier-2 element-1" role="treeitem"><a href="/events/python-events/" title</pre>
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tle="">User Group Events</a>
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itle="">Python Events Archive</a>
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t/" title="">User Group Events Archive</a>
class="tier-2 element-5" role="treeitem"><a href="https://wiki.python.org/moin/P"</pre>
ythonEventsCalendar#Submitting_an_Event" title="">Submit an Event</a>
<a href="/dev/">Contributing</a>
class="tier-2 element-1" role="treeitem"><a href="https://devguide.python.org/"</pre>
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class="tier-2 element-2" role="treeitem"><a href="https://github.com/python/cpyt">
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n/listinfo/python-dev" title="">python-dev list</a>
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t a Security Issue</a>
<a class="jump-link" href="#python-network" id="back-to-top-2"><span aria-hidden="tr</pre>
ue" class="icon-arrow-up"><span>▲</span></span> Back to Top</a>
</div><!-- end .container -->
</div> <!-- end .main-footer-links -->
<div class="site-base">
<div class="container">
class="tier-1 element-1"><a href="/about/help/">Help &amp; <span class="say-no-m</pre>
ore">General</span> Contact</a>
class="tier-1 element-2"><a href="/community/diversity/">Diversity <span class</pre>
="say-no-more">Initiatives</span></a>
class="tier-1 element-3"><a href="https://github.com/python/pythondotorg/issue">
s">Submit Website Bug</a>
<a href="https://status.python.org/">Status <span class="python-status-indicator-def"</pre>
ault" id="python-status-indicator"></span></a>
```

```
<div class="copyright">
       <small>
       <span class="pre">Copyright @2001-2025.</span>
                                     <span class="pre"><a href="/psf-landing/">Python Softwa
       re Foundation</a></span>
                                     <span class="pre"><a href="/about/legal/">Legal Stateme
       nts</a></span>
                                     <span class="pre"><a href="https://policies.python.org/"</pre>
       python.org/Privacy-Notice/">Privacy Notice</a></span>
       <!--&nbsp;<span class="pre"><a href="/psf/community-infrastructure">Powered by PSF C
       ommunity Infrastructure</a></span>-->
       </small>
       </div>
       </div><!-- end .container -->
       </div><!-- end .site-base -->
       </footer>
       </div><!-- end #touchnav-wrapper -->
       <script src="//ajax.googleapis.com/ajax/libs/jquery/1.8.2/jquery.min.js"></script>
       <script>window.jQuery || document.write('<script src="/static/js/libs/jquery-1.8.2.m</pre>
       in.js"><\/script>')</script>
       <script src="//ajax.googleapis.com/ajax/libs/jqueryui/1.12.1/jquery-ui.min.js"></scr</pre>
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       2.1.min.js"><\/script>')</script>
       <script src="/static/js/libs/masonry.pkgd.min.js"></script>
       <script src="/static/js/libs/html-includes.js"></script>
       <script charset="utf-8" src="/static/js/main-min.ef82c06437cf.js" type="text/javascr</pre>
       ipt"></script>
       <!--[if lte IE 7]>
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       charset="utf-8"></script>
           <![endif]-->
       <!--[if lte IE 8]>
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       8cd98f00.js" charset="utf-8"></script>
           <![endif]-->
       </body>
       </html>
In [5]: # fetch whole words from website
        content=library.getText()
```

Task2: Count Frequency From Text File

```
In [10]: #write in text file
    f=open("web_python.txt","w+",encoding="utf-8")
    f.write(content)
```

```
f.close()
#read in text file
f=open("web_python.txt","r")
f.read()
f.close()
# check frequency
freq={}
count=1
data=content.split()
for i in range(len(data)):
   if data[i].isalpha():
       if data[i] in freq:
            count+=1
            freq[data[i]]=(count)
        else:
            freq[data[i]]=count
#final output
f=open("web.python.txt","w")
f.write(str(freq))
f.close()
```