

# URLs

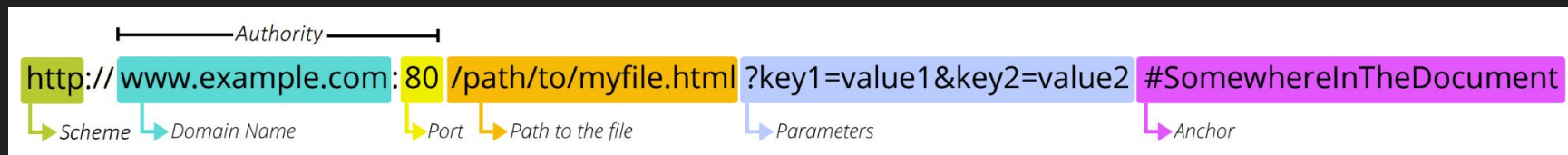
CS 272 Software Development

# Terminology

- **Uniform Resource Locator (URL)**
  - Identifies web pages and other resources
- **Hypertext Transport Protocol (HTTP)**
  - Transfers web pages from server to client (browser)
- **Hypertext Markup Language (HTML)**
  - Creates web pages (parsed/displayed by browser)



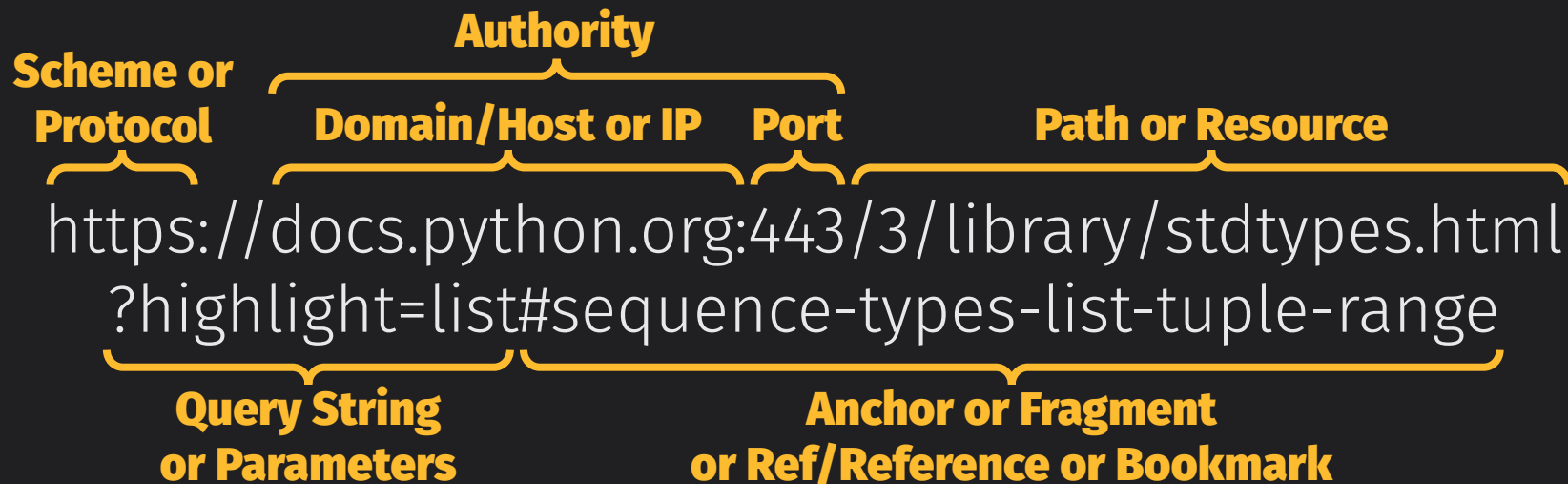
# URL Components



[https://developer.mozilla.org/en-US/docs/Learn/Common\\_questions/What\\_is\\_a\\_URL](https://developer.mozilla.org/en-US/docs/Learn/Common_questions/What_is_a_URL)



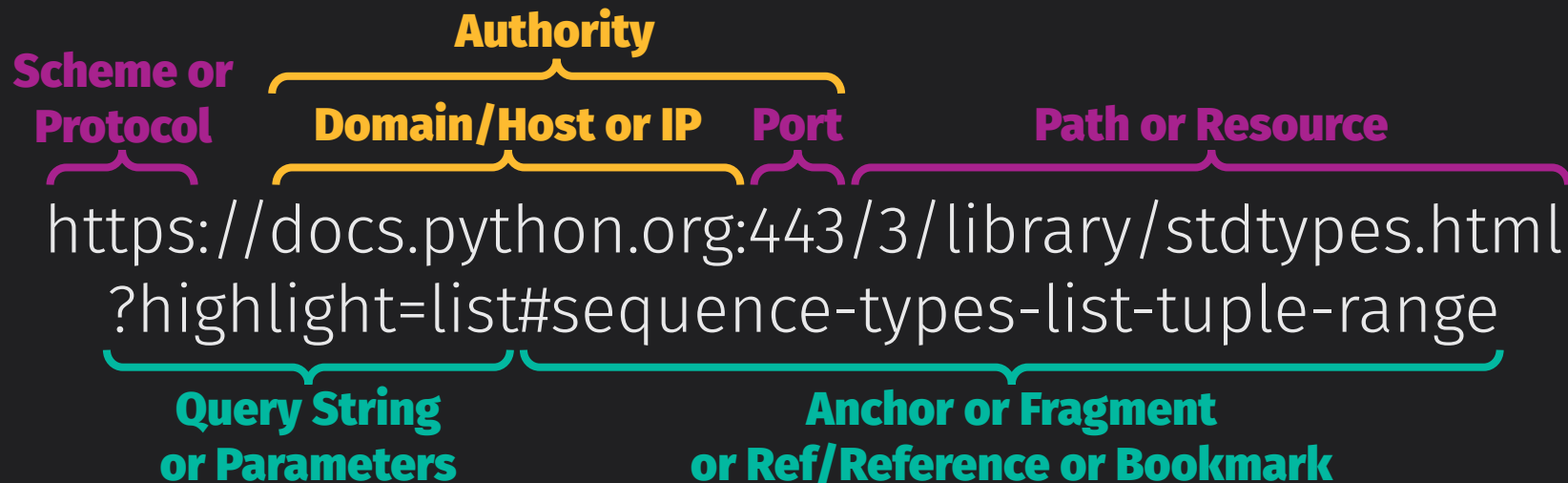
# URL Components



<https://docs.python.org:443/3/library/stdtypes.html?highlight=list#sequence-types-list-tuple-range>



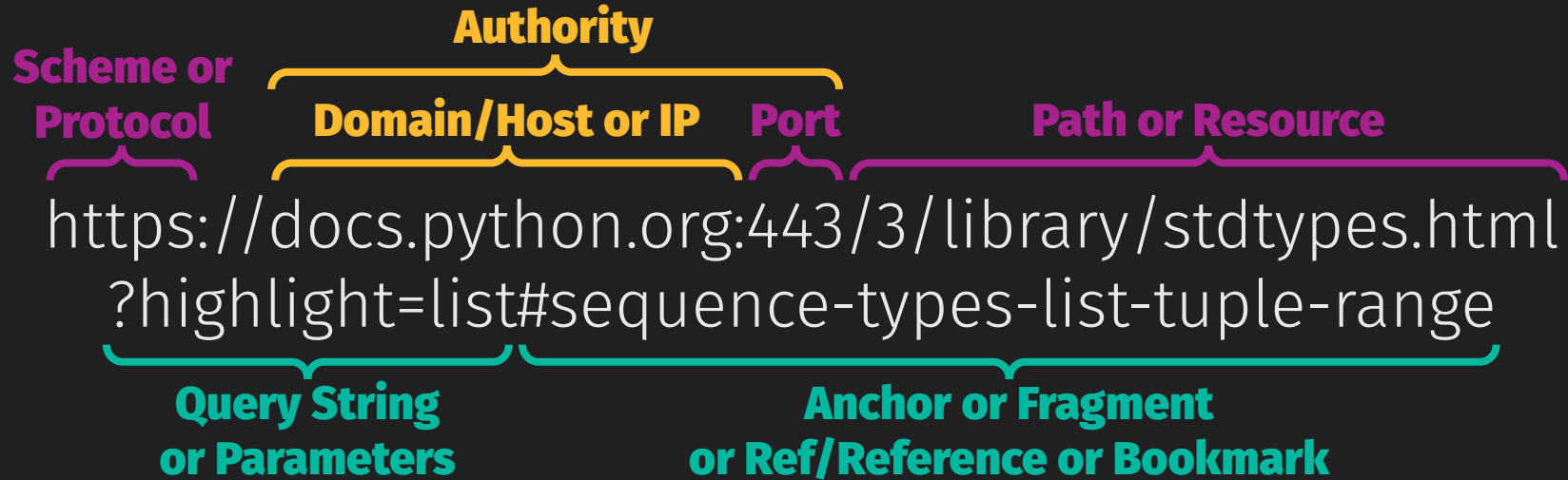
# URL Components - Defaults



<https://docs.python.org:443/3/library/stdtypes.html?highlight=list#sequence-types-list-tuple-range>



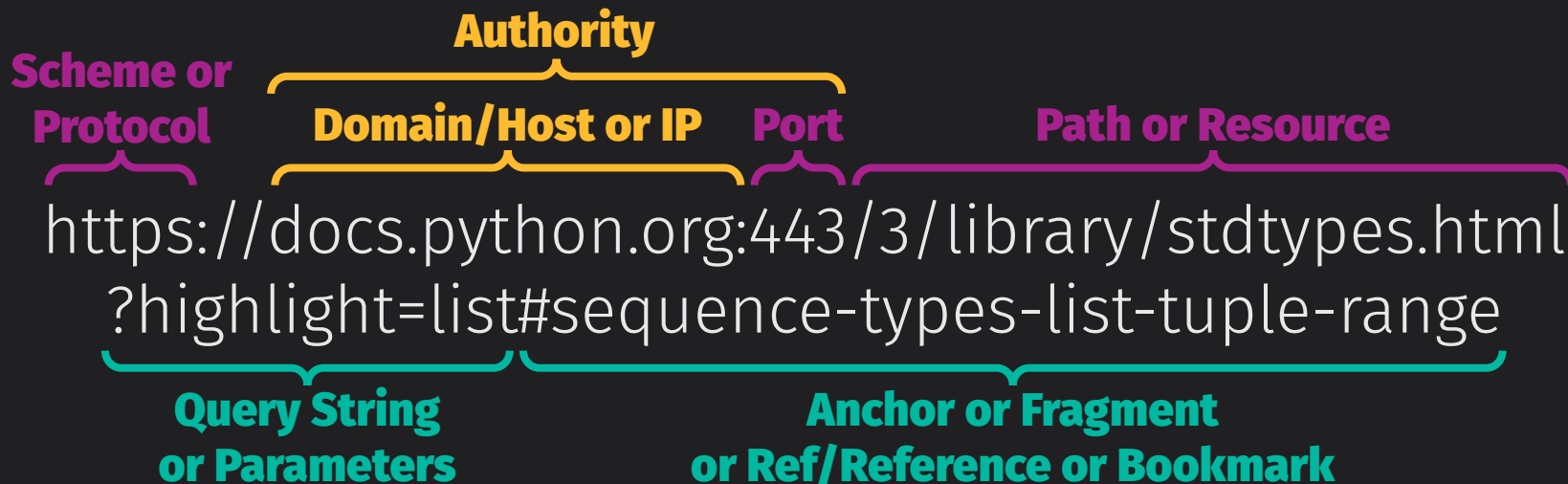
# URL Components - Required



<https://docs.python.org:443/3/library/stdtypes.html?highlight=list#sequence-types-list-tuple-range>



# URL Components - Optional



<https://docs.python.org:443/3/library/stdtypes.html?highlight=list#sequence-types-list-tuple-range>



# Uniform Resource Locator (URL)

`https://docs.python.org:443/3/library/stdtypes.html  
?highlight=list#sequence-types-list-tuple-range`

- **Required Components**

- Scheme or protocol `://`
- Authority (domain/IP/~~port~~)
- Path to resource  
(default to `/` if missing)

- **Optional Components**

- `?` Query string/parameters
- `#` Anchor/fragment/ref
- **Absolute vs Relative Form**  
(use of `/ ..` similar to paths)

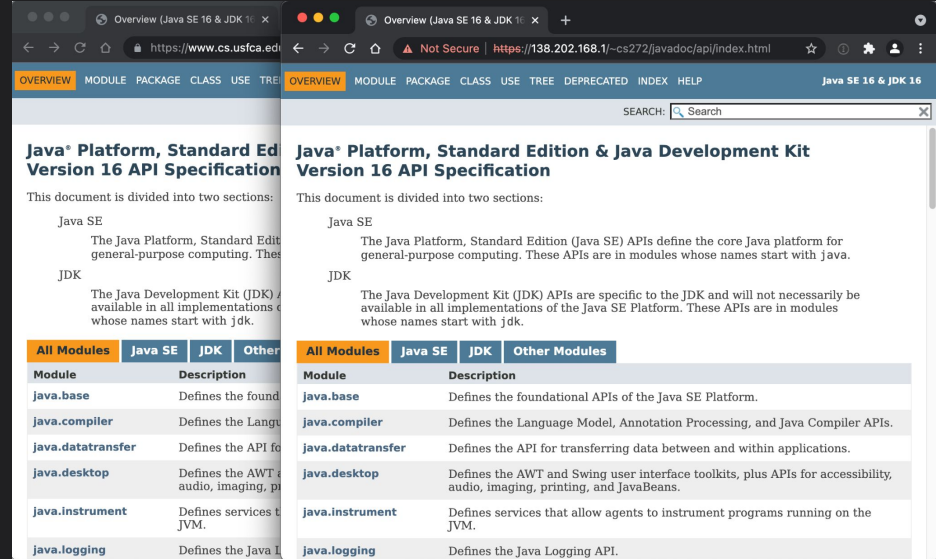




# Domain vs IP Address

```
nslookup www.cs.usfca.edu
Server:      8.8.8.8
Address:    8.8.8.8#53
```

```
Non-authoritative answer:
Name:   www.cs.usfca.edu
Address: 138.202.168.1
```



<https://www.cs.usfca.edu/~cs272/javadoc/api/index.html> · <https://138.202.168.1/~cs272/javadoc/api/index.html>

# Questions?

