GENERAL ASSEMBLY

INTRO TO DATA SCIENCE:
APIs & JSON

I. APIS AND JSON

JSON (JavaScript Object Notation) is a borrowed JavaScript form turned into a string that can be passed between applications.

JSON are passed through applications as **strings**, and converted into native objects per language.

```
>>> someFile = open('/Users/epodojil/GA_Data_Science/a.json').read()
>>> print json.dumps(someFile)
"{\n    \"glossary\": {\n        \"title\": \"example glossary\",\n    \"GlossDiv\": {\n            \"title\": \"S\",\n      \"
\"SGML\",\n          \"SortAs\": \"SGML\",\n          \"GlossTerm\": \"Standard Generalized Markup Language\",\n          \"Acr
ef\": {\n                        \"para\": \"A meta-markup language, used to create markup languages such as DocBook.\",\n
\"GlossSee\": \"markup\"\n                }\n            }\n        }\n    }\n}"
>>> print someFile
{
    "glossary": {
        "title": "example glossary",
    "GlossDiv": {
            "title": "S",
      "GlossList": {
                "GlossEntry": {
                    "ID": "SGML",
          "SortAs": "SGML",
          "GlossTerm": "Standard Generalized Markup Language",
          "Acronym": "SGML",
          "Abbrev": "ISO 8879:1986",
          "GlossDef": {
                        "para": "A meta-markup language, used to create markup languages such as DocBook.",
            "GlossSeeAlso": ["GML", "XML"]
                    },
          "GlossSee": "markup"
                }
            }
        }
    }
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>>> print json.loads(someFile)
{u'glossary': {u'GlossDiv': {u'GlossList': {u'GlossEntry': {u'GlossDef': {u'GlossSeeAlso': [u'GML', u'XML'], u'para': u'A meta-
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String

Object

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Python Dict

APIs (Application Programming Interface) allow people to interact with the structures of an application to get, put, delete, or update data.

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Best practices for APIs are to use RESTful principles.

RESTful APIs include:

The Base URL and collection.
An interactive media type (usually JSON)
Operations (GET, PUT, POST, DELETE)
Driven by Hypertext (http requests)

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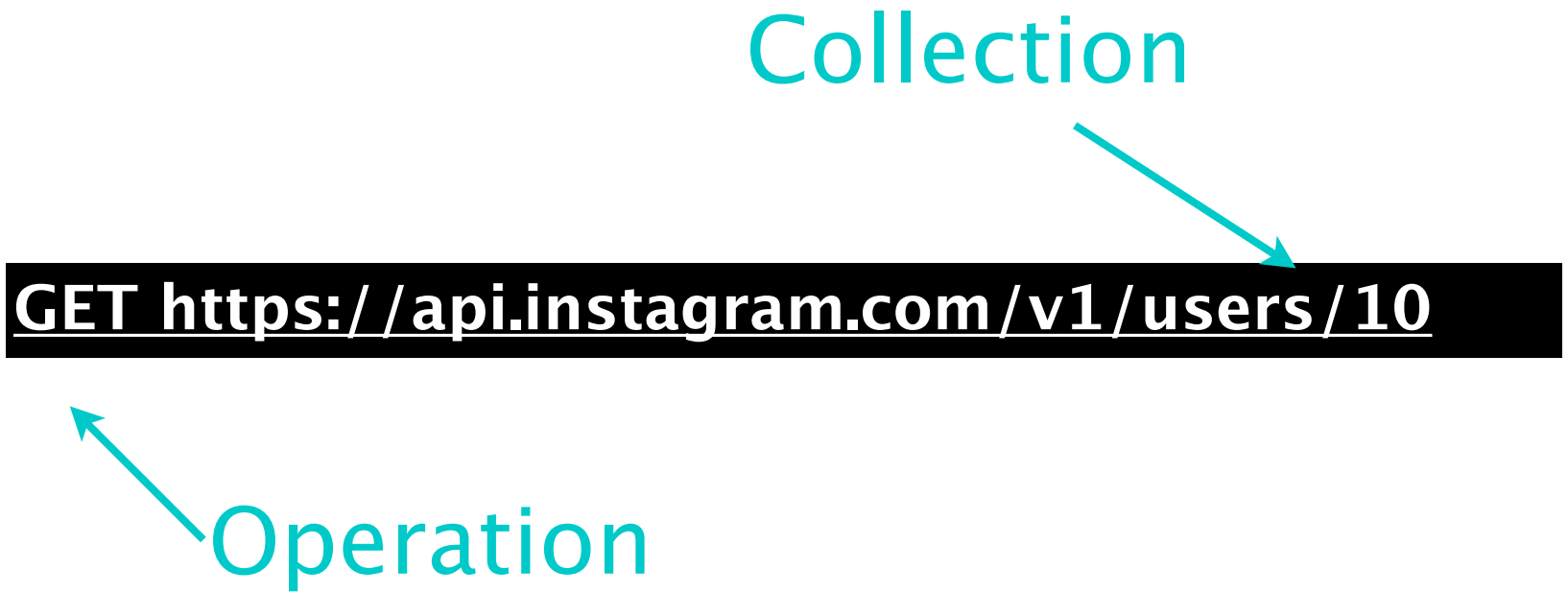
Collection
GET https://api.instagram.com/v1/users/10
Operation

```
GET https://api.instagram.com/v1/users/search/?q=andy
```

Querystring

RESTful APIs can always be accessed using cURL requests: hence why hypertext access is a requirement!

Most have language libraries to make it easier to access through the language of your choice.

http://www.pythonapi.com/