

Multithreading

In [52]: **import** requests

In [51]: !pip install requests

```
Requirement already satisfied: requests in /Users/nam/anaconda3/lib/python3.6/site-packages
Requirement already satisfied: chardet<3.1.0,>=3.0.2 in /Users/nam/anaconda3/lib/python3.6/site-packages (from requests)
Requirement already satisfied: idna<2.7,>=2.5 in /Users/nam/anaconda3/lib/python3.6/site-packages (from requests)
Requirement already satisfied: urllib3<1.23,>=1.21.1 in /Users/nam/anaconda3/lib/python3.6/site-packages (from requests)
Requirement already satisfied: certifi>=2017.4.17 in /Users/nam/anaconda3/lib/python3.6/site-packages (from requests)
You are using pip version 9.0.1, however version 10.0.1 is available.
You should consider upgrading via the 'pip install --upgrade pip' command.
```

In [53]: gists = ['https://gist.github.com/recluze/1d2989c7e345c8c3c542',
 'https://gist.github.com/recluze/a98aa1804884ca3b3ad3',
 'https://gist.github.com/recluze/5051735efe3fc189b90d',
 'https://gist.github.com/recluze/460157afc6a7492555bb',
 'https://gist.github.com/recluze/5051735efe3fc189b90d',
 'https://gist.github.com/recluze/c9bc4130af995c36176d']

In [54]: **from** contextlib **import** contextmanager *# import the decorator*
import time

```
@contextmanager
def timeit():
    start_time = int(round(time.time() * 1000))

    yield # Remember this guy from the generators lecture?

    end_time = int(round(time.time() * 1000))
    elapsed = end_time - start_time
    print("Code took %d ms to run." % elapsed)
```

In [55]: **def** get_gist(g):
 print("Starting request: %s" % g)
 r = requests.get(g)
 g_length = len(r.text)
 print("Got response of length: %d" % g_length)

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In [56]:

```

with timeit():

    for g in gists:
        get_gist(g)
    print("All done.")

Starting request: https://gist.github.com/recluze/1d2989c7e345c8c3c542 (https://gist.github.com/recluze/1d2989c7e345c8c3c542)
Got response of length: 228613
Starting request: https://gist.github.com/recluze/a98aa1804884ca3b3ad3 (https://gist.github.com/recluze/a98aa1804884ca3b3ad3)
Got response of length: 106686
Starting request: https://gist.github.com/recluze/5051735efe3fc189b90d (https://gist.github.com/recluze/5051735efe3fc189b90d)
Got response of length: 40611
Starting request: https://gist.github.com/recluze/460157afc6a7492555bb (https://gist.github.com/recluze/460157afc6a7492555bb)
Got response of length: 44023
Starting request: https://gist.github.com/recluze/5051735efe3fc189b90d (https://gist.github.com/recluze/5051735efe3fc189b90d)
Got response of length: 40611
Starting request: https://gist.github.com/recluze/c9bc4130af995c36176d (https://gist.github.com/recluze/c9bc4130af995c36176d)
Got response of length: 62718
All done.
Code took 9723 ms to run.

```

Let's do all these in parallel!

In [57]:

```

import threading

with timeit():
    threads = []
    for g in gists:
        # Create workers
        t = threading.Thread(target=get_gist, args=(g, ))

        # Go!
        t.start()

        threads.append(t) # Keep a list for record

    for t in threads:
        t.join()          # Wait til it finishes

    print("All done.")

```

```

Starting request: https://gist.github.com/recluze/5051735efe3fc189b90dStarting (https://gist.github.com/recluze/5051735efe3fc189b90dStarting) request: https://gist.github.com/recluze/1d2989c7e345c8c3c542Starting (https://gist.github.com/recluze/1d2989c7e345c8c3c542Starting) request: https://gist.github.com/recluze/a98aa1804884ca3b3ad3Starting (https://gist.github.com/recluze/a98aa1804884ca3b3ad3Starting) request: https://gist.github.com/recluze/460157afc6a7492555bb (https://gist.github.com/recluze/460157afc6a7492555bb)

```

```

Starting request: https://gist.github.com/recluze/5051735efe3fc189b90d (https://gist.github.com/recluze/5051735efe3fc189b90d)
Starting request: https://gist.github.com/recluze/c9bc4130af995c36176d (https://gist.github.com/recluze/c9bc4130af995c36176d)
Got response of length: 40611
Got response of length: 40611
Got response of length: 62719
Got response of length: 44022
Got response of length: 106685
Got response of length: 228613
All done.
Code took 2161 ms to run.

```

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In []: