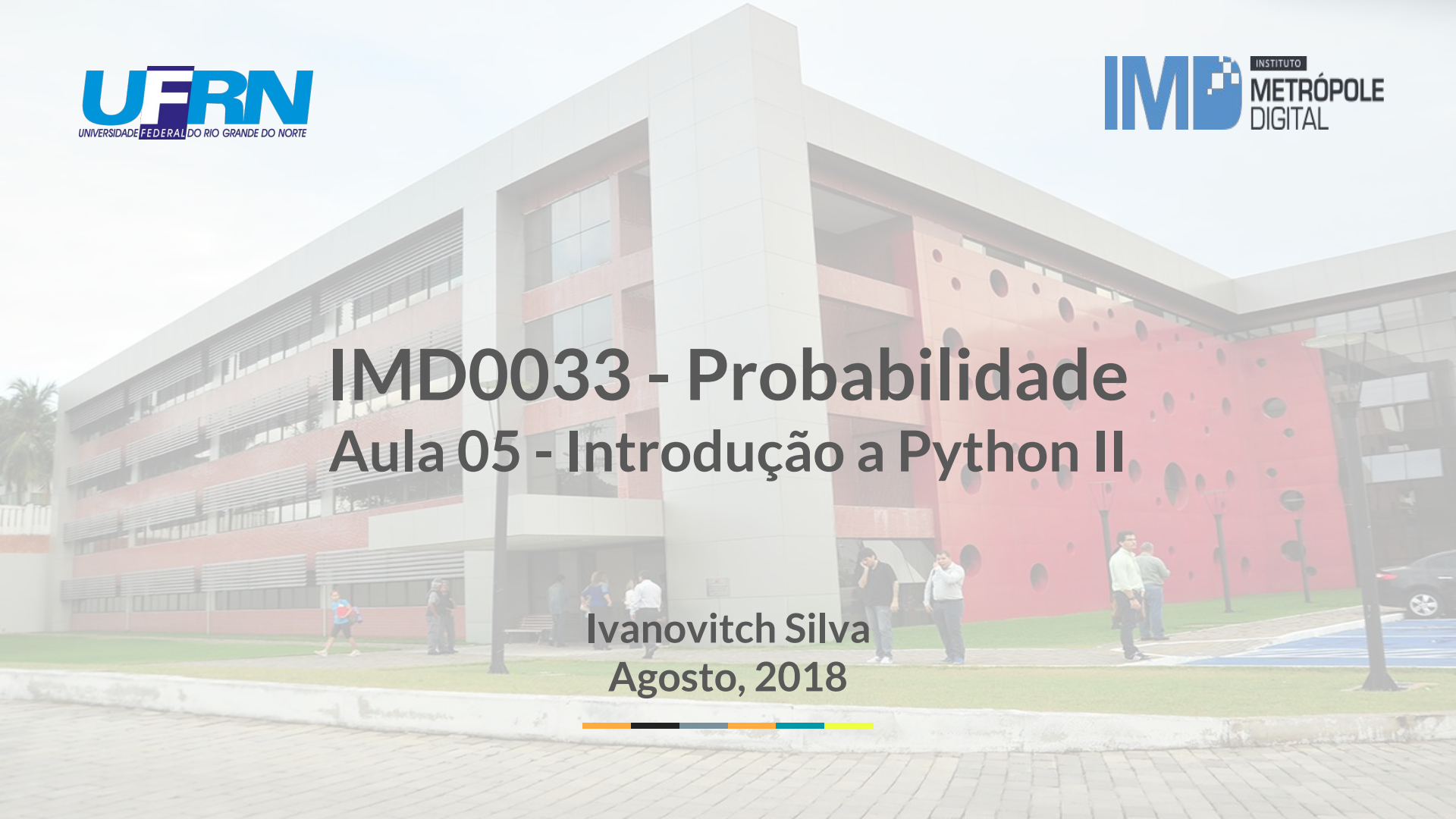


IMD0033 - Probabilidade

Aula 05 - Introdução a Python II

Ivanovitch Silva

Agosto, 2018

Agenda

- Modules

top100.csv

Spotify®

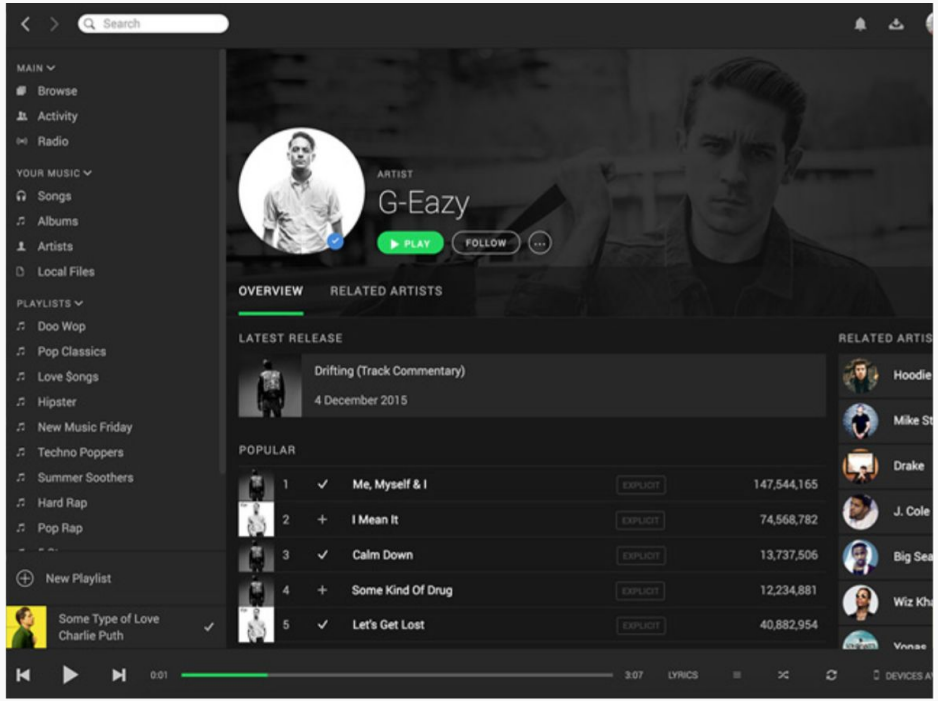
Atualizar o repositório

```
git clone https://github.com/ivanovitchm/imd0033_2018_2.git
```

Ou ....

```
git pull
```

Spotify



As of January 2018, Spotify has over 70 million paying users

What are the average total streams for each song in the top 100?

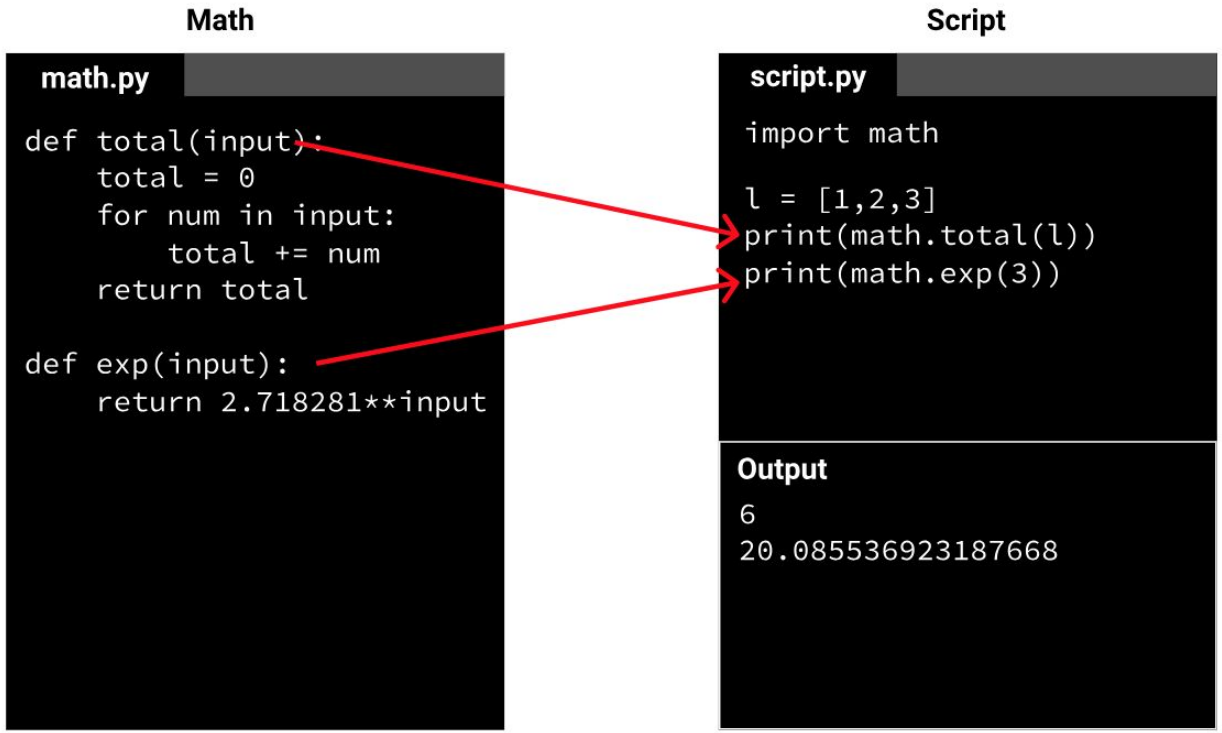
Which song was the most popular song of 2017?

Spotify's Worldwide Daily Song Ranking

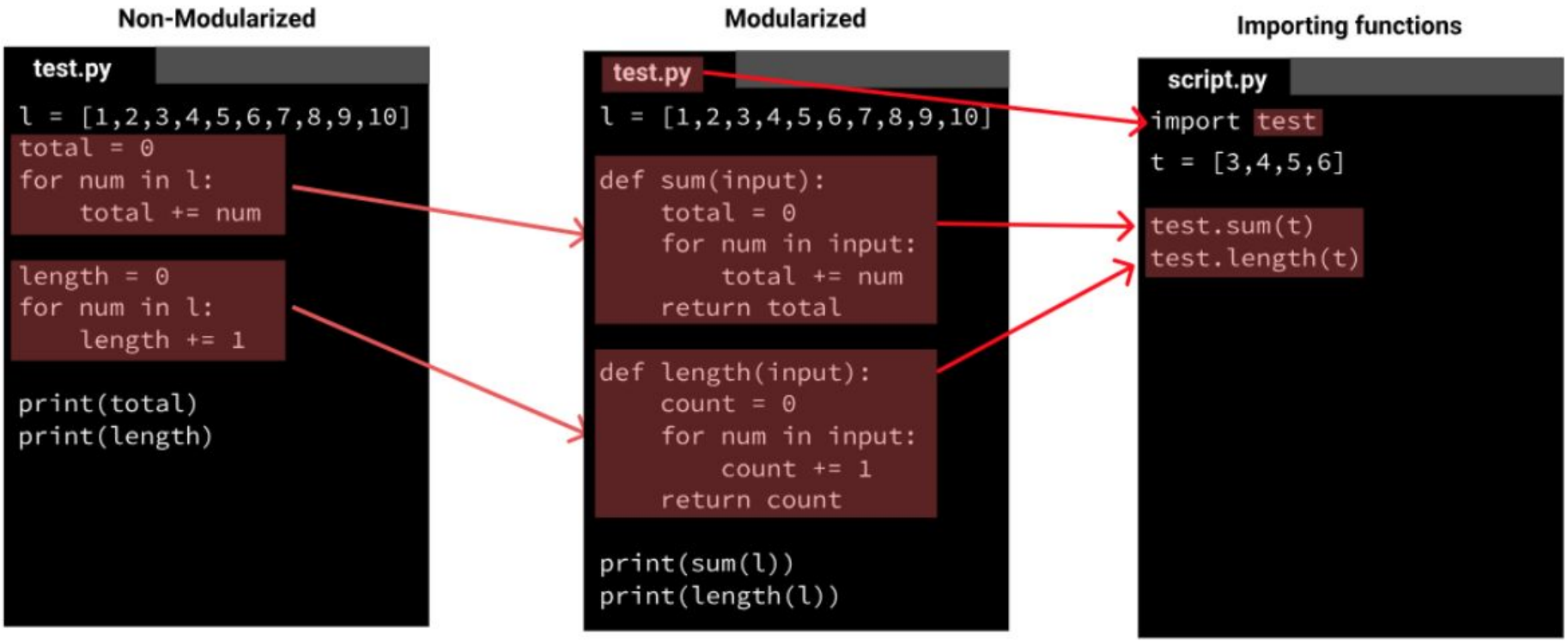
kaggle

	Track Name	Artist	Position	Streams
77	Sign of the Times	Harry Styles	756325	503894417
92	Photograph	Ed Sheeran	1525708	441132246
70	Look What You Made Me Do	Taylor Swift	335837	562562226
36	Scared to Be Lonely	Martin Garrix	1074560	866104216
13	Attention	Charlie Puth	560536	1112777364

Introduction to Modules



Introduction to Modules



Introduction to Modules

Sections
2.1 - 2.6

```
import csv
f = open("top100.csv","r")
music = list(csv.reader(f))

stream_numbers = []
track_names = []

for song in music[1:]:
    stream_numbers.append(int(song[3]))
    track_names.append(song[0])
```

```
music
```

```
[['Track Name', 'Artist', 'Position', 'Streams'],
 ['Shape of You', 'Ed Sheeran', '301513', '2993988783'],
 ['Despacito - Remix', 'Luis Fonsi', '477232', '1829621841'],
 ['Despacito (Featuring Daddy Yankee)', 'Luis Fonsi', '816152', '1460802540'],
 ['Something Just Like This', 'The Chainsmokers', '725122', '1386258295'],
 ['HUMBLE.', 'Kendrick Lamar', '854060', '1311243745'],
 ['Unforgettable', 'French Montana', '667424', '1289150890'],
 ['rockstar', 'Post Malone', '127973', '1260181617'],
```

Local and Global Variables

script.py

```
l = [1,2,3,4,5,6,7,8,9,10]

def sum(input):
    total = 0
    for num in input:
        total += num
    return total

def length(input):
    count = 0
    for num in input:
        count += 1
    return count

print(sum(l))
print(length(l))
```

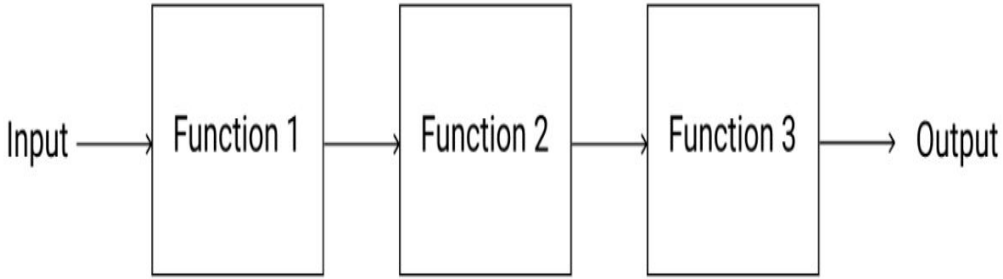
script.py

```
l = [1,2,3,4,5,6,7,8,9,10]

def sum(input):
    total = 0
    for num in input:
        total += num
    return total

print(total)
```

Output

```
NameError: name 'total' is
not defined
```

Using programming paradigms (functional)




```
import math

x = 7
def exp(x):
    return math.exp(x)

def fraction(x):
    return 1/x

x = exp(x)
x = fraction(x)
```

Sections
2.7 - 2.10


MacBook Pro