CE 650C   Assignment 1   Tingting Huang (ISU ID:036220212)

Part 1

**• Create a new repository on GitHub (make it public and initiate it with the README.md)**

Create a new repository

A repository contains all the files for your project, including the revision history.

Owner   Repository name

🔲 jane212 ▾ / homework1 ✓

Great repository names are short and memorable. Need inspiration? How about **redesigned-potato**.

Description (optional)

◉ 📖 **Public**
Anyone can see this repository. You choose who can commit.

◯ 🔒 **Private**
You choose who can see and commit to this repository.

☑ **Initialize this repository with a README**
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: **None** ▾ | Add a license: **None** ▾ ⓘ

Create repository

• Clone the repository (on the machine that was assigned to you)

```
● ● ●      🏠 Tingting — user15@s03:~ — ssh user15@10.29.19.11 — 80×24
Last login: Mon Jan 30 10:13:32 on console
[thuang1:~ Tingting$ ssh user15@10.29.19.11
[user15@10.29.19.11's password:
Last login: Thu Jan 26 18:13:45 2017 from thuang1.student.iastate.edu
[[user15@s03 ~]$ pw
-bash: pw: command not found
[[user15@s03 ~]$ ls
lecturepy   project15   project2   project_py
[user15@s03 ~]$ git clone https://github.com/jane212/homework1.git▮
```

• Add a new file to this repository using the "vi editor"

```
[user15@s03 homework1]$ vi part1
```

```
new file in homework 1, part 1
~
~
```

• Add the file to tracking

```
[user15@s03 homework1]$ vi part1
[user15@s03 homework1]$ ls
part1  README.md
[user15@s03 homework1]$ git status
# On branch master
# Untracked files:
#   (use "git add <file>..." to include in what will be committed)
#
#       part1
nothing added to commit but untracked files present (use "git add" to track)
[user15@s03 homework1]$ git add part1
```

• Do a commit

```
[user15@s03 homework1]$ vi part1
[user15@s03 homework1]$ ls
part1  README.md
[user15@s03 homework1]$ git status
# On branch master
# Untracked files:
#   (use "git add <file>..." to include in what will be committed)
#
#       part1
nothing added to commit but untracked files present (use "git add" to track)
[user15@s03 homework1]$ git add part1
[user15@s03 homework1]$ git commit -m "new file added"
```

• **Do a push to your GitHub account**

```
● ● ●    Tingting — user15@s03:~/homework1 — ssh user15@10.29.19.11 — 80×24
[user15@s03 homework1]$ vi part1
[user15@s03 homework1]$ ls
part1  README.md
[user15@s03 homework1]$ git status
# On branch master
# Untracked files:
#   (use "git add <file>..." to include in what will be committed)
#
#       part1
nothing added to commit but untracked files present (use "git add" to track)
[user15@s03 homework1]$ git add part1
[user15@s03 homework1]$ git commit -m "new file added"
[master 06fd4ba] new file added
 1 files changed, 1 insertions(+), 0 deletions(-)
 create mode 100644 part1
[user15@s03 homework1]$ git push -u https://jane212@github.com/jane212/homework1
.git master
```

• **Create a fix (add some lines) to some file in your local repository and do a git merge operation**

```
● ● ●    Tingting — user15@s03:~/homework1 — ssh user15@10.29.19.11 — 80×24
[user15@s03 homework1]$ git branch fix
```

```
● ● ●    Tingting — user15@s03:~/homework1 — ssh user15@10.29.19.11 — 80×24
new file in homework 1, part 1
new fix added
~
~
~
```

```
● ● ●    Tingting — user15@s03:~/homework1 — ssh user15@10.29.19.11 — 80×24
[user15@s03 homework1]$ git branch fix
[user15@s03 homework1]$ git checkout fix
Switched to branch 'fix'
[user15@s03 homework1]$ git branch
* fix
  master
[user15@s03 homework1]$ ls
part1  README.md
[user15@s03 homework1]$ vi part1
[user15@s03 homework1]$ git status
# On branch fix
# Changed but not updated:
#   (use "git add <file>..." to update what will be committed)
#   (use "git checkout -- <file>..." to discard changes in working directory)
#
#       modified:   part1
#
no changes added to commit (use "git add" and/or "git commit -a")
[user15@s03 homework1]$ git commit -a -m "new fix added"
```

```
Tingting — user15@s03:~/homework1 — ssh user15@10.29.19.11 — 80×24
[user15@s03 homework1]$ git checkout master
Switched to branch 'master'
[user15@s03 homework1]$ git merge fix
```

```
Tingting — user15@s03:~/homework1 — ssh user15@10.29.19.11 — 80×24
[user15@s03 homework1]$ git checkout master
Switched to branch 'master'
[user15@s03 homework1]$ git merge fix
Updating 06fd4ba..3a55c0a
Fast-forward
 part1 |    1 +
 1 files changed, 1 insertions(+), 0 deletions(-)
[user15@s03 homework1]$ git push -u https://jane212@github.com/jane212/homework1
.git master
```

Part 2

• Create a new folder named python_project for this project and cd into the python_project folder

```
[[user15@s03 homework1]$ mkdir python_project
[[user15@s03 homework1]$ cd python_project
 [user15@s03 python_project]$ vi capture.py
```

Tingting — user15@s03:~/homework1/python_project — ssh user15@10.29.19....

• Write python code (name this file capture.py) to read the XML from the URL provided on GitHub (check README.md of Lecture 3) and Write the contents to a file named 'stream.xml' (this step is mentioned in the presentation)

Tingting — user15@s03:~/homework1/python_project — ssh user15@10.29.19....

```python
import os
import sys
import time
import urllib2
import xml.etree.ElementTree as ET

url_str = "http://205.221.97.102/Iowa.Sims.AllSites.C2C/IADOT_SIMS_AllSites_C2C.
asmx/OP_ShareTrafficDetectorData?MSG_TrafficDetectorDataRequest=string%20HTTP/1.
1"

request = urllib2.Request(url_str, headers = {"Accept":"text/xml"})

content = urllib2.urlopen(request).read()

f = open("stream.xml",'w')

f.write(content)

f.close()
~
~
~
~
-- INSERT --                                                17,10          All
```

Tingting — user15@s03:~/homework1/python_project — ssh user15@10.29.19....

```
[[user15@s03 homework1]$ mkdir python_project
[[user15@s03 homework1]$ cd python_project
[[user15@s03 python_project]$ vi capture.py
[[user15@s03 python_project]$ python capture.py
[[user15@s03 python_project]$ ls
 capture.py   stream.xml
 [user15@s03 python_project]$
```

• Write python code (name this file parser.py) to parse the XML(stream.xml) and print the Detector-ID and Status (mentioned in presentation)

```
[user15@s03 python_project]$ vi parser.py
```

```python
import os
import sys
import time
import urllib2
import xml.etree.ElementTree as ET

tree = ET.parse("stream.xml")

root = tree.getroot()

for i in range (1,100):
        z = root.getchildren()[2].getchildren()[0].getchildren()[3].getchildren(
)[i]
        print z.getchildren()[0].text, "|", z.getchildren()[1].text
~
~
~
~
~
~
~
~
~
~
-- INSERT --                                              13,61-68        All
```

```
I-380 CRDS04 NB | operational
I-380 CRDS04 SB | operational
I-380 CRDS04 NB Ramp | operational
I-380 CRDS05 NB | operational
I-380 CRDS05 SB | operational
I-380 CRDS06 NB | operational
I-380 CRDS06 SB | operational
I-380 CRDS07 Ramp RL | operational
I-380 CRDS08 NB | operational
I-380 CRDS08 SB | operational
I-380 CRDS08 SB Ramp | operational
I-380 CRDS09 NB | operational
I-380 CRDS09 SB | operational
I-380 CRDS09 NB Ramp | operational
I-380 CRDS09 SB Ramp | operational
I-380 CRDS10 NB | operational
I-380 CRDS10 SB | operational
I-380 CRDS10 NB Ramp | operational
I-380 CRDS10 SB Ramp | operational
I-380 CRDS11 NB | operational
I-380 CRDS11 SB | operational
I-380 CRDS11 NB Ramp | operational
I-380 CRDS11 SB Ramp | operational
[user15@s03 python_project]$
```

Part 3

• Write the parsed output (and only the parsed output i.e. the Detector-ID and Status) from the previous step to a file named streamdata.csv or streamdata.xml

```
● ● ●   ⌂ Tingting — user15@s03:~/homework1/python_project — ssh user15@10.29.19....
[user15@s03 python_project]$ vi parser.py▊
```

```
● ● ●   ⌂ Tingting — user15@s03:~/homework1/python_project — ssh user15@10.29.19....
import os
import sys
import time
import urllib2
import xml.etree.ElementTree as ET

tree = ET.parse("stream.xml")

root = tree.getroot()

f = open('streamdata.csv','w')

for i in range (1,100):
        z = root.getchildren()[2].getchildren()[0].getchildren()[3].getchildren(
)[i]
        content = z.getchildren()[0].text+","+z.getchildren()[1].text
        f.write(content)
        f.write('\n')

f.close()
~
~
~
"parser.py" 19L, 379C                                        17,2-9          All
```

```
● ● ●   ⌂ Tingting — user15@s03:~/homework1/python_project — ssh user15@10.29.19....
[user15@s03 python_project]$ vi parser.py                                      ]
[user15@s03 python_project]$ python parser.py                                  ]
[user15@s03 python_project]$ ls                                                ]
capture.py   parser.py   streamdata.csv   stream.xml
[user15@s03 python_project]$ ▊
```

```
● ● ●   ⌂ Tingting — user15@s03:~/homework1/python_project — ssh user15@10.29.19....
[user15@s03 python_project]$ cat streamdata.csv | head
I-74 NB from 12th Ave to 7th Ave,operational
I-74 NB from 7th Ave to 4th Ave,operational
I-74 NB from 4th Ave to 1st Ave,operational
I-74 NB from 1st Ave to Toll Pla,operational
I-74 NB from Toll Plaza to South,operational
I-74 NB from South Tower to Nort,failed
I-74 NB from North Tower to Isle,operational
I-74 NB from Isle Park to Holmes,operational
I-74 NB from Lincoln to Middle,operational
I-74 NB from Spruce Hills to Cro,operational
[user15@s03 python_project]$ ▊
```