

Introduction to Computing

Lab#01

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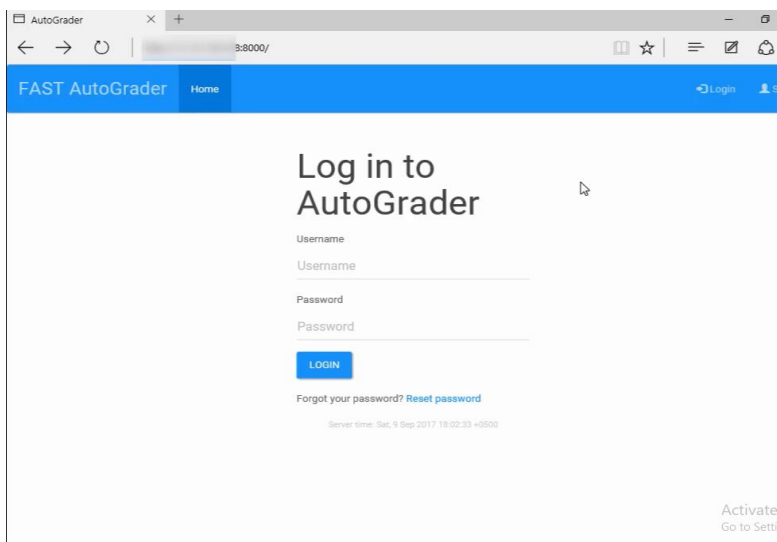
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Installation of Anaconda

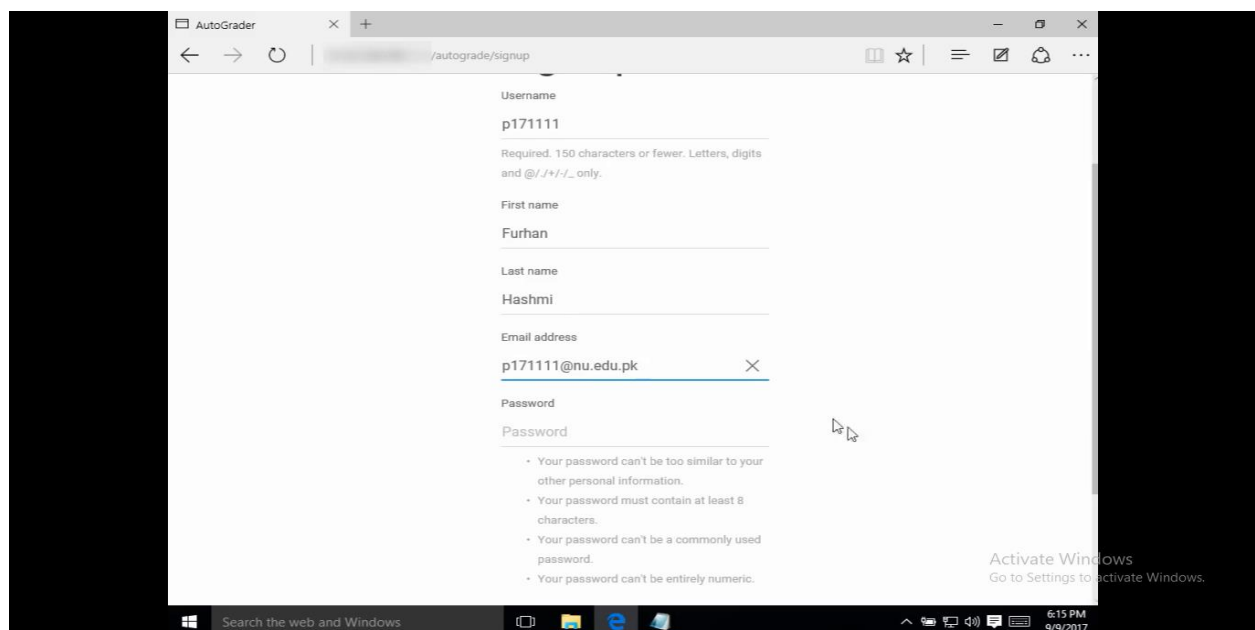
1. Point your web browser at <https://www.anaconda.com/download/> Download python latest version of the Windows
2. After downloading just double click the installer exe and follow the prompts. It will by default install in the directory Anaconda3 in your home directory and will offer to add the anaconda bin directory to your PATH variable.

Autograder

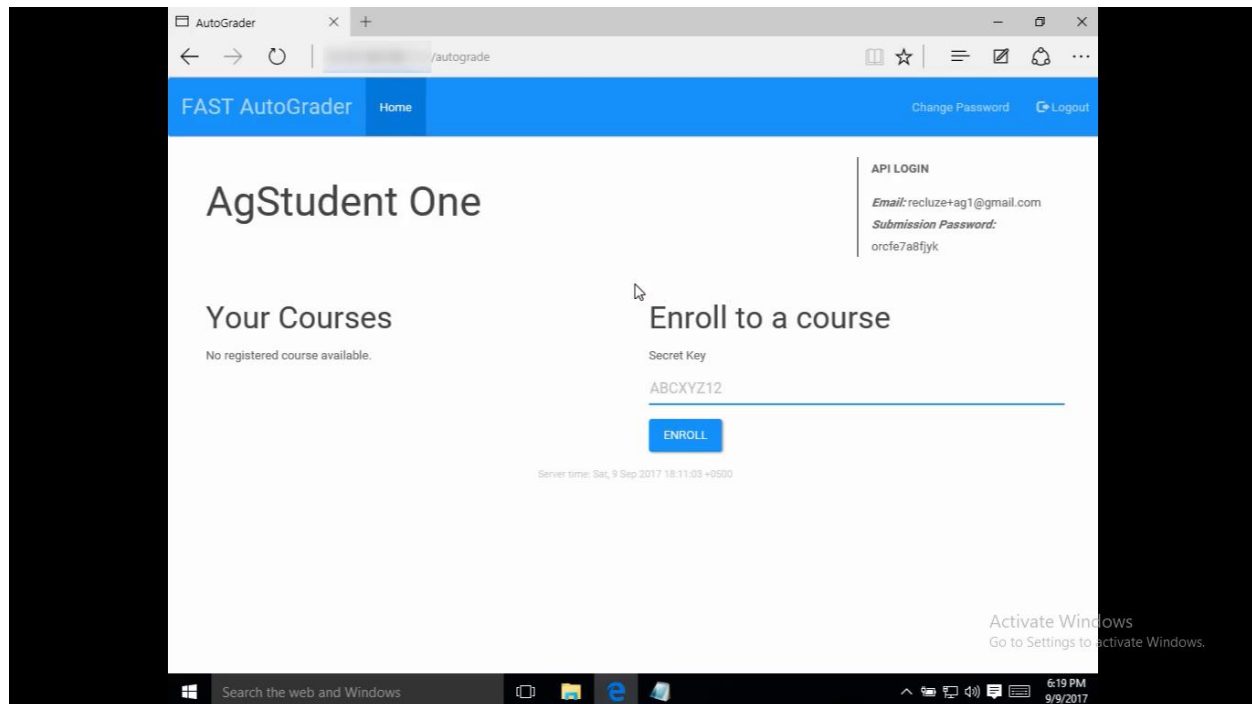
Go to link <http://121.52.146.108:8000/> . This page will open



Click on Signup and fill the details



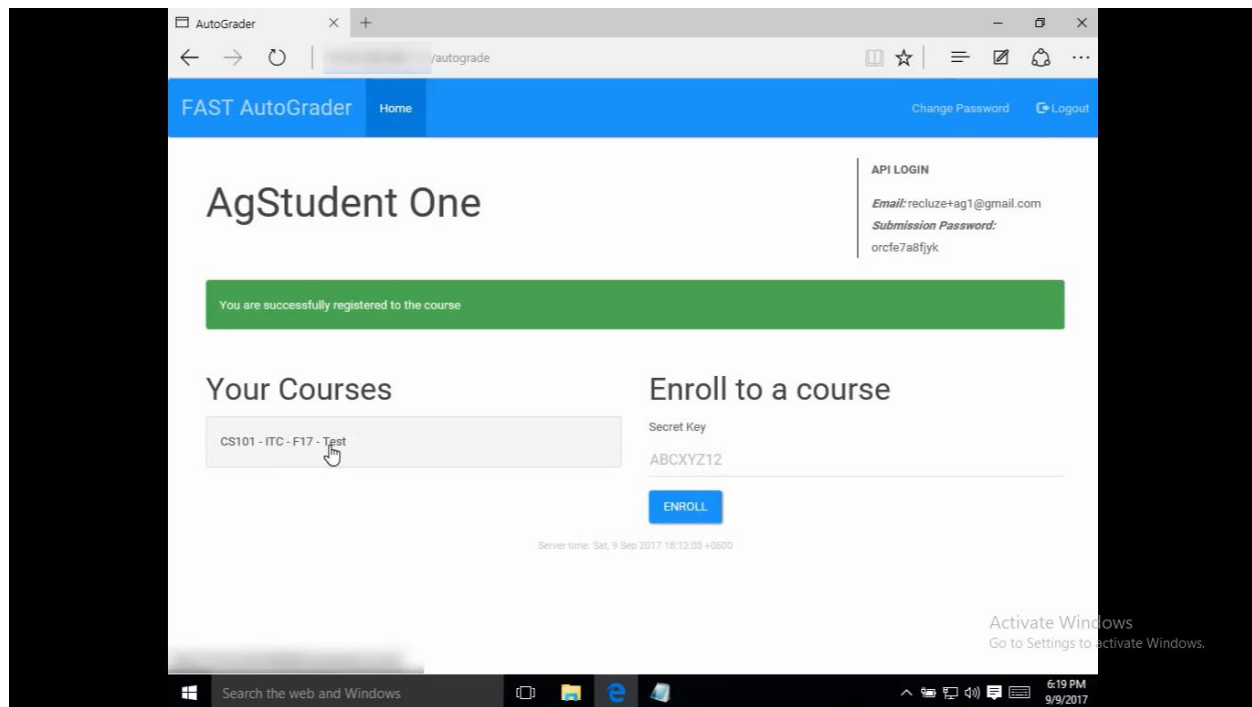
After that you will receive a confirmation email on your email account. Click on verify email and this page will open



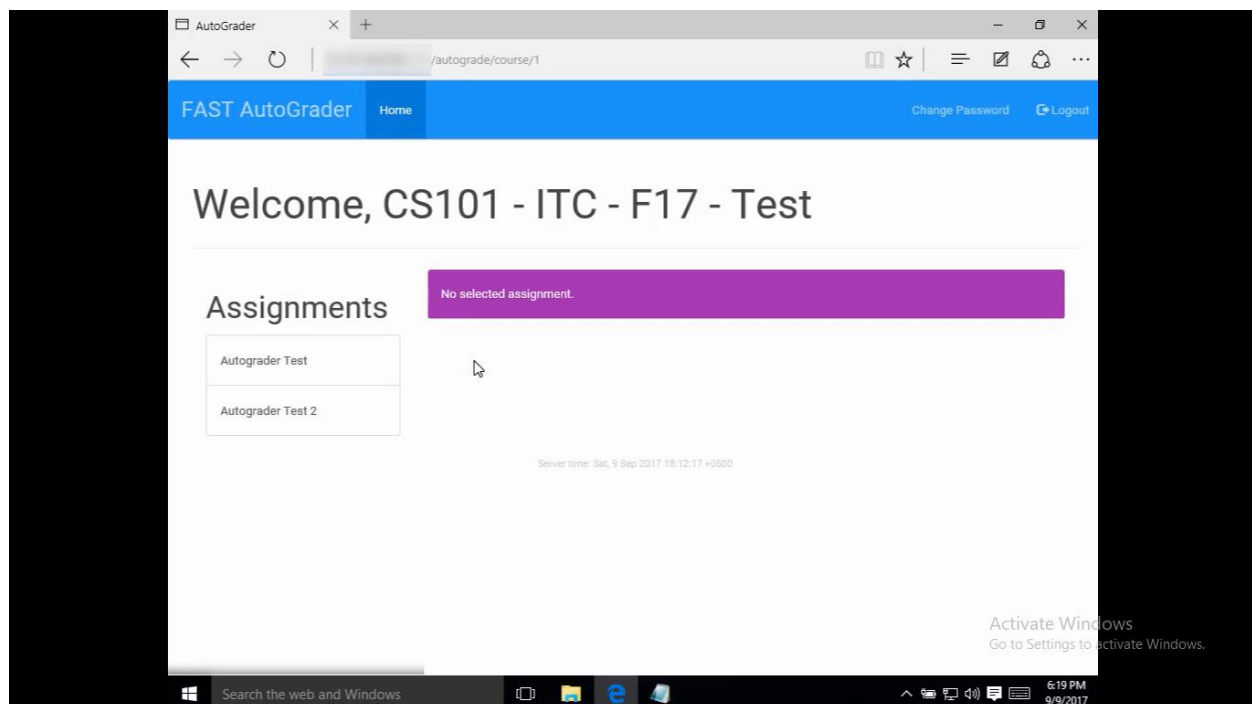
secrete key is (it is different for each section)

token/secret key	Course
TDIZO7	CS118 - PF - F18 - Sec C
I7F38G	CS118 - PF - F18 - Sec B
83OE07	CS118 - PF - F18 - Sec A

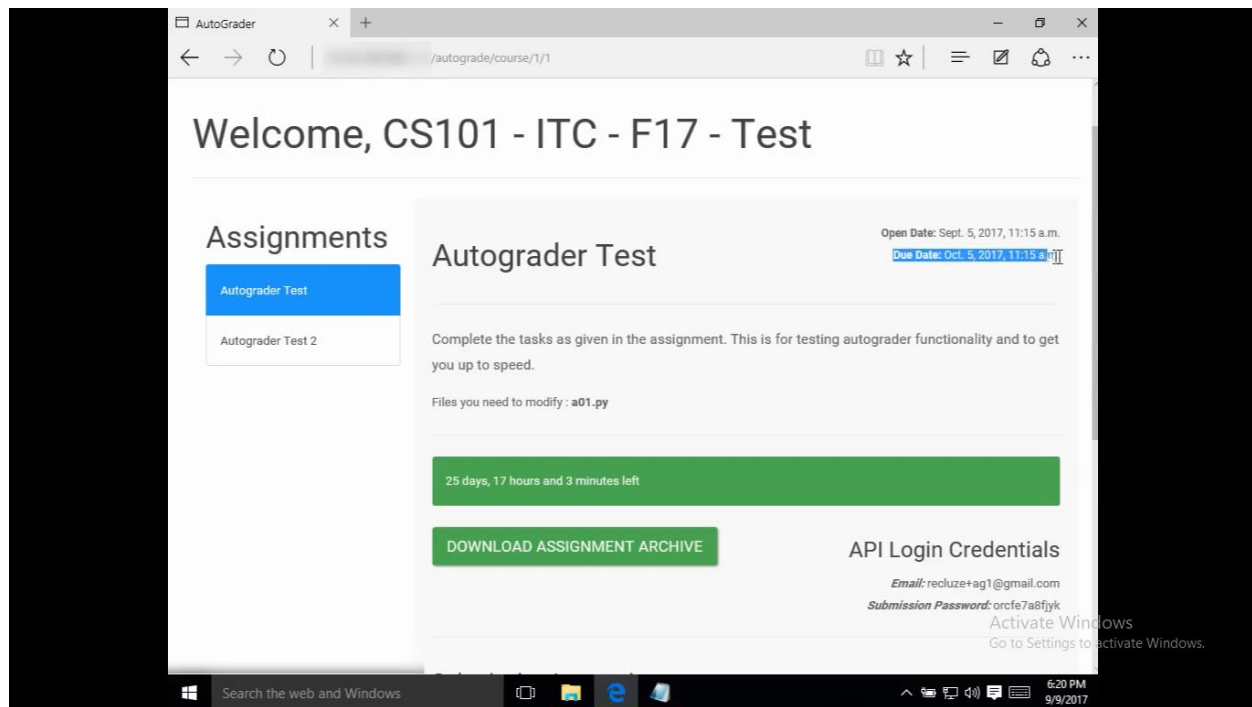
After writing secrete key Press on enroll button and then link on the course to see assignment.



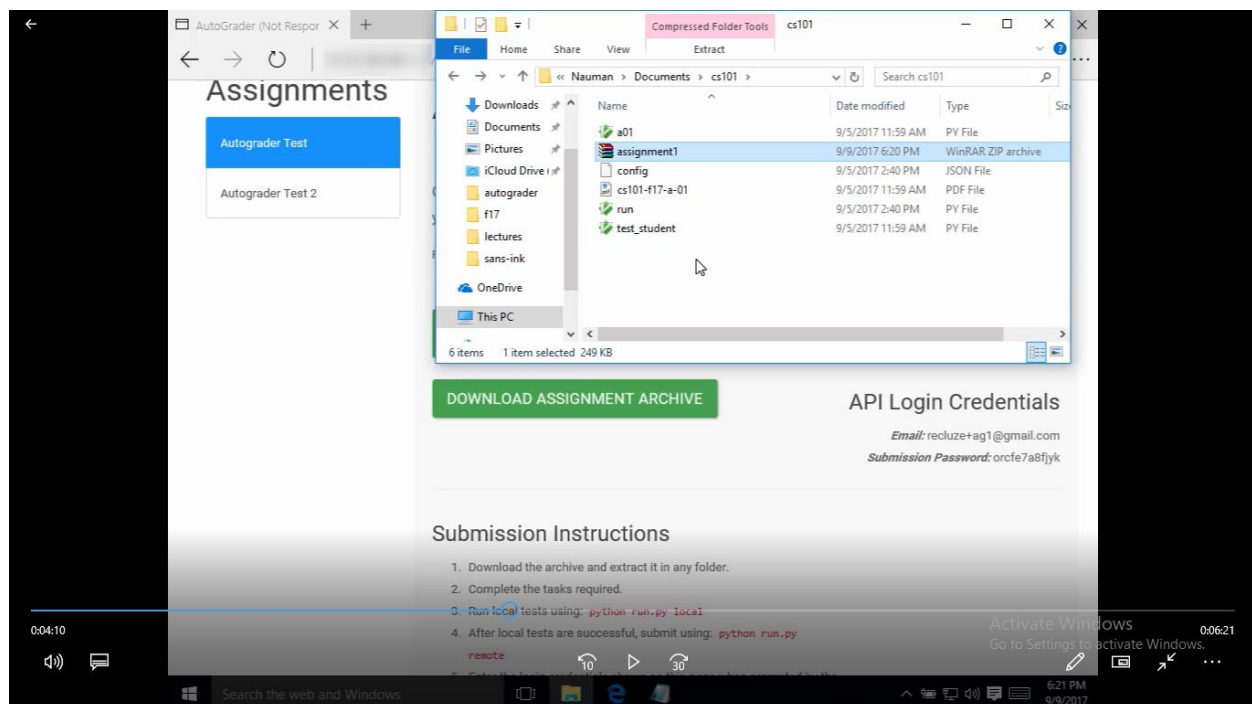
After clicking on course this window will appear.



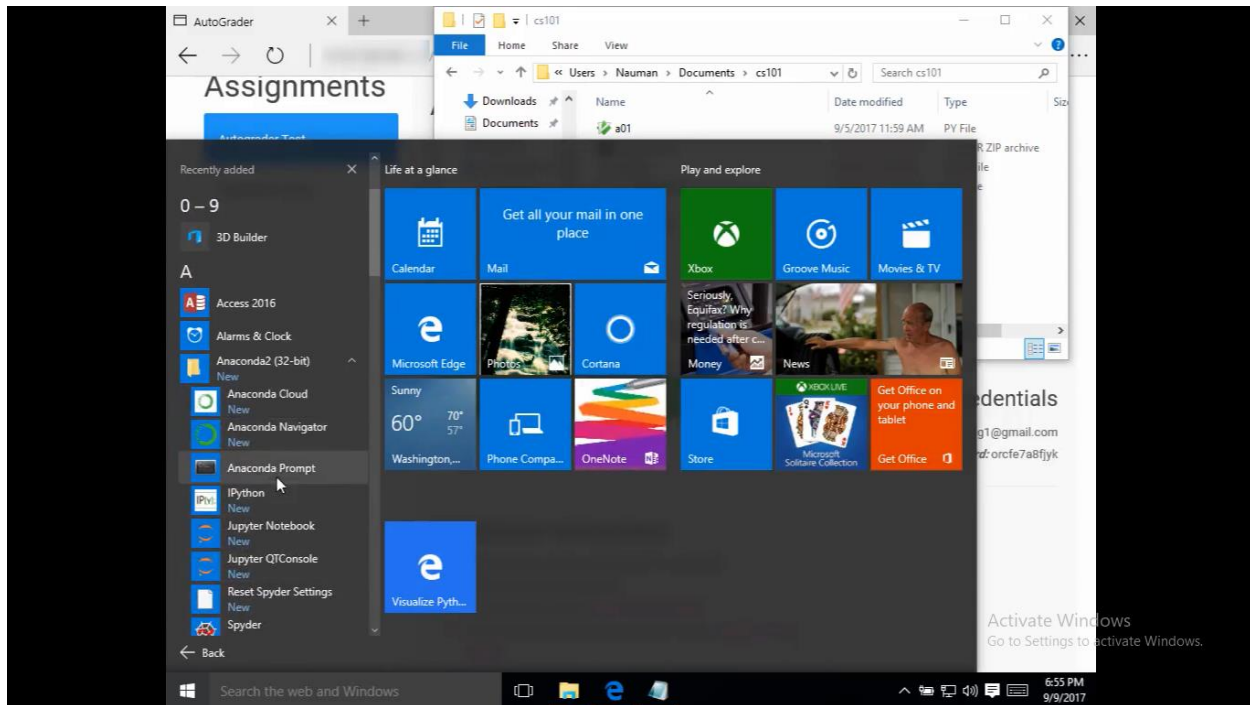
Click on assignment



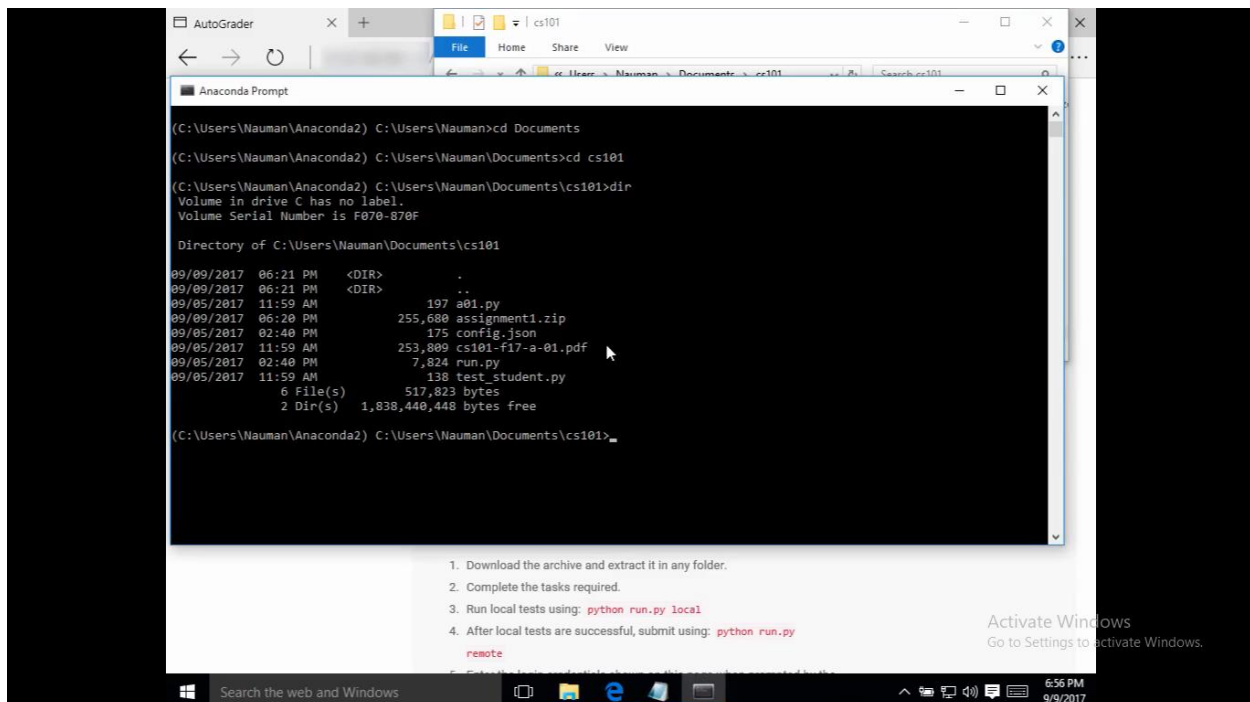
Now download the file and extract them



Now open anaconda prompt from start menu



Go to directory where you have downloaded the file



If you using autograder for the first time on your machine you need to run a command “pip install pytest-timeout”

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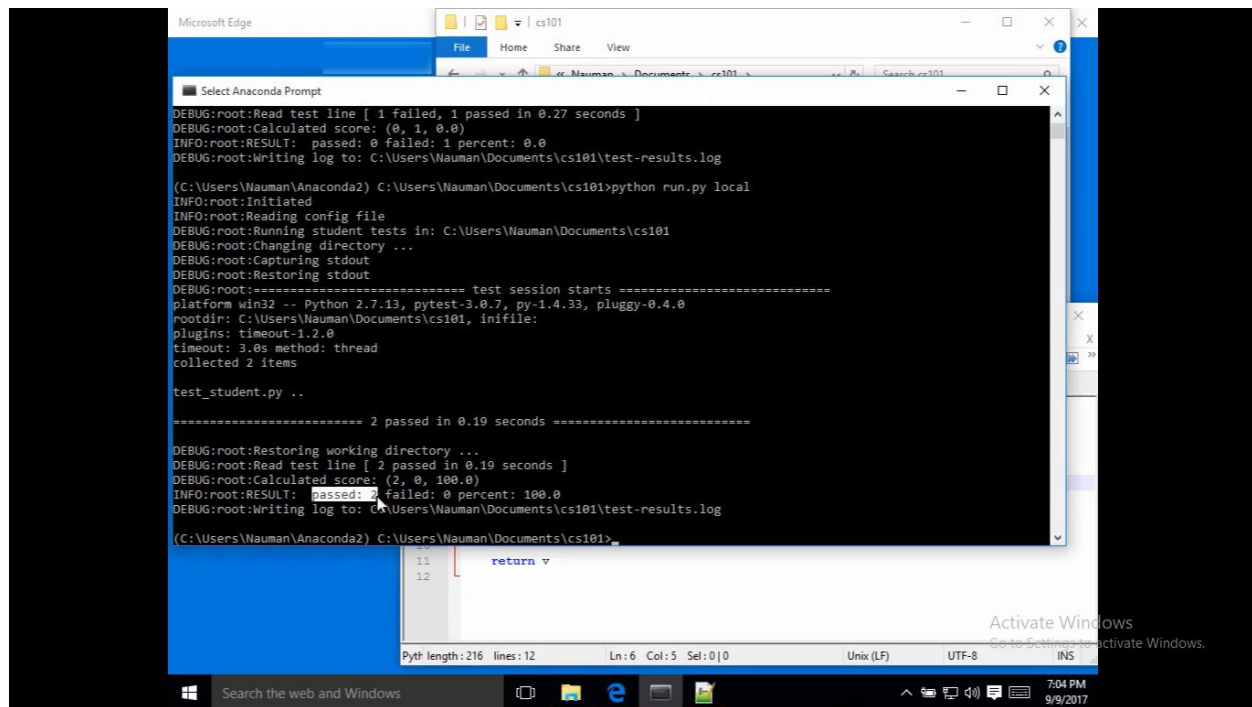
The screenshot shows an AutoGrader interface with a terminal window. The terminal displays the directory contents of C:\Users\Nauman\Documents\cs101, including files like a01.py, assignment1.zip, config.json, cs101-f17-a-01.pdf, run.py, and test_student.py. It then shows the command `pip install pytest-timeout` being executed, with output indicating that the package was successfully installed. Below the terminal, a list of instructions is visible: 1. Download the archive and extract it in any folder. 2. Complete the tasks required. 3. Run local tests using: `python run.py local`. 4. After local tests are successful, submit using: `python run.py remote`. The system clock at the bottom right shows 6:56 PM on 9/9/2017.

After that now write “python run.py local”

The screenshot shows the AutoGrader terminal window after running `python run.py local`. The output shows the test session starting, with pytest 3.0.7 and plugins like timeout-1.2.0. It then shows the test results for `test_student.py`, indicating that the test failed. The error message is `AssertionError`. The output also shows the score calculated as (0, 1, 0.0) and the log file path. Below the terminal, the same list of instructions is visible, with the third instruction highlighted: 3. Run local tests using: `python run.py local`. The system clock at the bottom right shows 6:57 PM on 9/9/2017.

Means you have not done your assignment correctly. Do the assignment and then run “python run.py local” command again

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```
Microsoft Edge
File Home Share View
cs101
C:\Users\Nauman\Documents\cs101
Search cs101

Select Anaconda Prompt
DEBUG:root:Read test line [ 1 failed, 1 passed in 0.27 seconds ]
DEBUG:root:Calculated score: (0, 1, 0.0)
INFO:root:RESULT: passed: 0 failed: 1 percent: 0.0
DEBUG:root:Writing log to: C:\Users\Nauman\Documents\cs101\test-results.log

(C:\Users\Nauman\Anaconda2) C:\Users\Nauman\Documents\cs101>python run.py local
INFO:root:Initiated
INFO:root:Reading config file
DEBUG:root:Running student tests in: C:\Users\Nauman\Documents\cs101
DEBUG:root:Changing directory ...
DEBUG:root:Capturing stdout
DEBUG:root:Restoring stdout
DEBUG:root:===== test session starts =====
platform win32 -- Python 2.7.13, pytest-3.0.7, py-1.4.33, pluggy-0.4.0
rootdir: C:\Users\Nauman\Documents\cs101, inifile:
plugins: timeout-1.2.0
timeout: 3.0s method: thread
collected 2 items

test_student.py ..

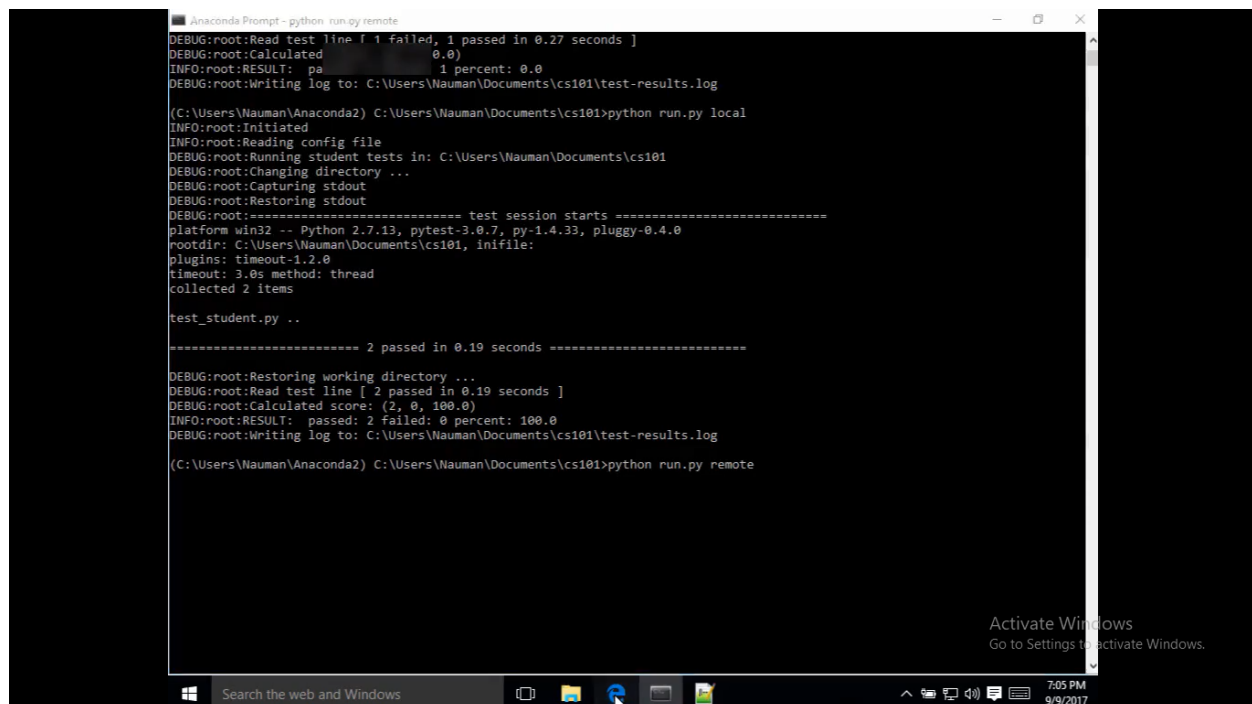
===== 2 passed in 0.19 seconds =====

DEBUG:root:Restoring working directory ...
DEBUG:root:Read test line [ 2 passed in 0.19 seconds ]
DEBUG:root:Calculated score: (2, 0, 100.0)
INFO:root:RESULT: passed: 2 failed: 0 percent: 100.0
DEBUG:root:Writing log to: C:\Users\Nauman\Documents\cs101\test-results.log

(C:\Users\Nauman\Anaconda2) C:\Users\Nauman\Documents\cs101>

11         return v
12
Pyth length: 216 lines: 12 Ln: 6 Col: 5 Sel: 0 | 0 Unix (LF) UTF-8 INS
Activate Windows
Go to Settings to activate Windows.
7:04 PM
9/9/2017
```

Once you are ready to submit the assignment. Write “python run.py remote”



```
Anaconda Prompt - python run.py remote
DEBUG:root:Read test line [ 1 failed, 1 passed in 0.27 seconds ]
DEBUG:root:Calculated score: (0, 1, 0.0)
INFO:root:RESULT: passed: 0 failed: 1 percent: 0.0
DEBUG:root:Writing log to: C:\Users\Nauman\Documents\cs101\test-results.log

(C:\Users\Nauman\Anaconda2) C:\Users\Nauman\Documents\cs101>python run.py local
INFO:root:Initiated
INFO:root:Reading config file
DEBUG:root:Running student tests in: C:\Users\Nauman\Documents\cs101
DEBUG:root:Changing directory ...
DEBUG:root:Capturing stdout
DEBUG:root:Restoring stdout
DEBUG:root:===== test session starts =====
platform win32 -- Python 2.7.13, pytest-3.0.7, py-1.4.33, pluggy-0.4.0
rootdir: C:\Users\Nauman\Documents\cs101, inifile:
plugins: timeout-1.2.0
timeout: 3.0s method: thread
collected 2 items

test_student.py ..

===== 2 passed in 0.19 seconds =====

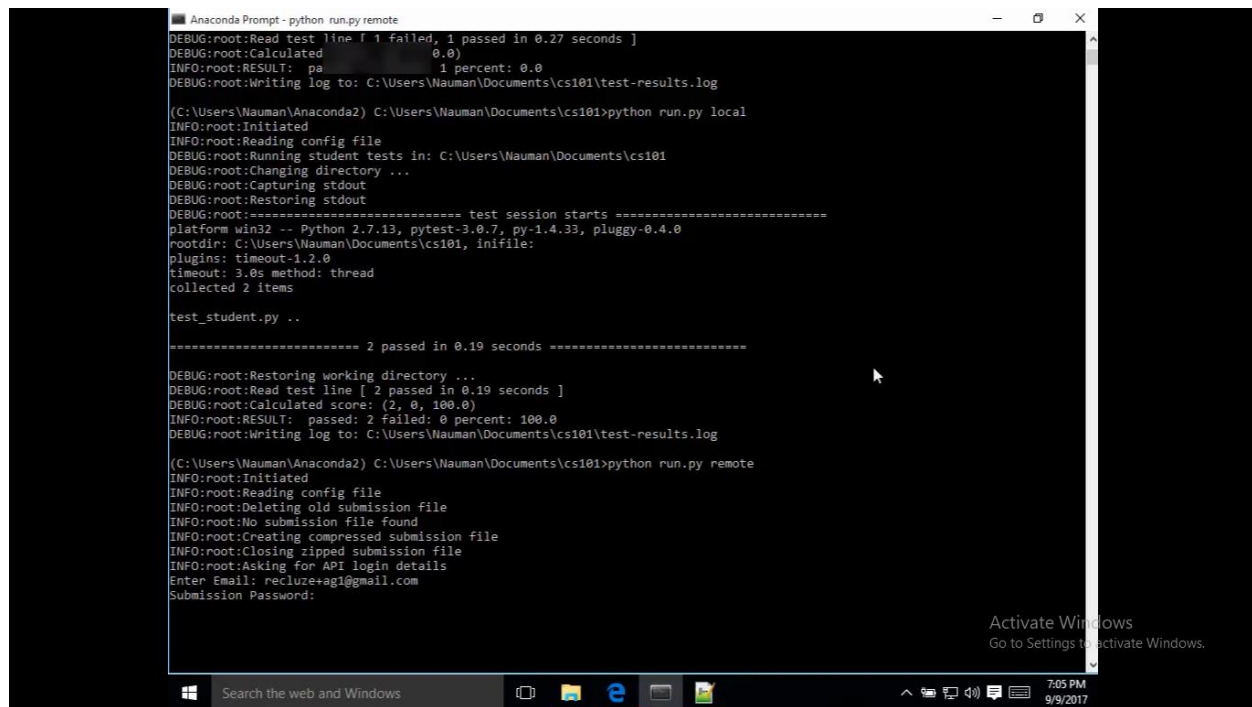
DEBUG:root:Restoring working directory ...
DEBUG:root:Read test line [ 2 passed in 0.19 seconds ]
DEBUG:root:Calculated score: (2, 0, 100.0)
INFO:root:RESULT: passed: 2 failed: 0 percent: 100.0
DEBUG:root:Writing log to: C:\Users\Nauman\Documents\cs101\test-results.log

(C:\Users\Nauman\Anaconda2) C:\Users\Nauman\Documents\cs101>python run.py remote

Activate Windows
Go to Settings to activate Windows.
7:05 PM
9/9/2017
```

It will ask few questions.

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```

Anaconda Prompt - python run.py remote
DEBUG:root:Read test line f 1 failed, 1 passed in 0.27 seconds ]
DEBUG:root:Calculated score: (0, 0)
INFO:root:RESULT: passed: 1 percent: 0.0
DEBUG:root:Writing log to: C:\Users\Nauman\Documents\cs101\test-results.log

(C:\Users\Nauman\Anaconda2) C:\Users\Nauman\Documents\cs101>python run.py local
INFO:root:Initiated
INFO:root:Reading config file
DEBUG:root:Running student tests in: C:\Users\Nauman\Documents\cs101
DEBUG:root:Changing directory ...
DEBUG:root:Capturing stdout
DEBUG:root:Restoring stdout
DEBUG:root:===== test session starts =====
platform win32 -- Python 2.7.13, pytest-3.0.7, py-1.4.33, pluggy-0.4.0
rootdir: C:\Users\Nauman\Documents\cs101, inifile:
plugins: timeout-1.2.0
timeout: 3.0s method: thread
collected 2 items

test_student.py ..

===== 2 passed in 0.19 seconds =====

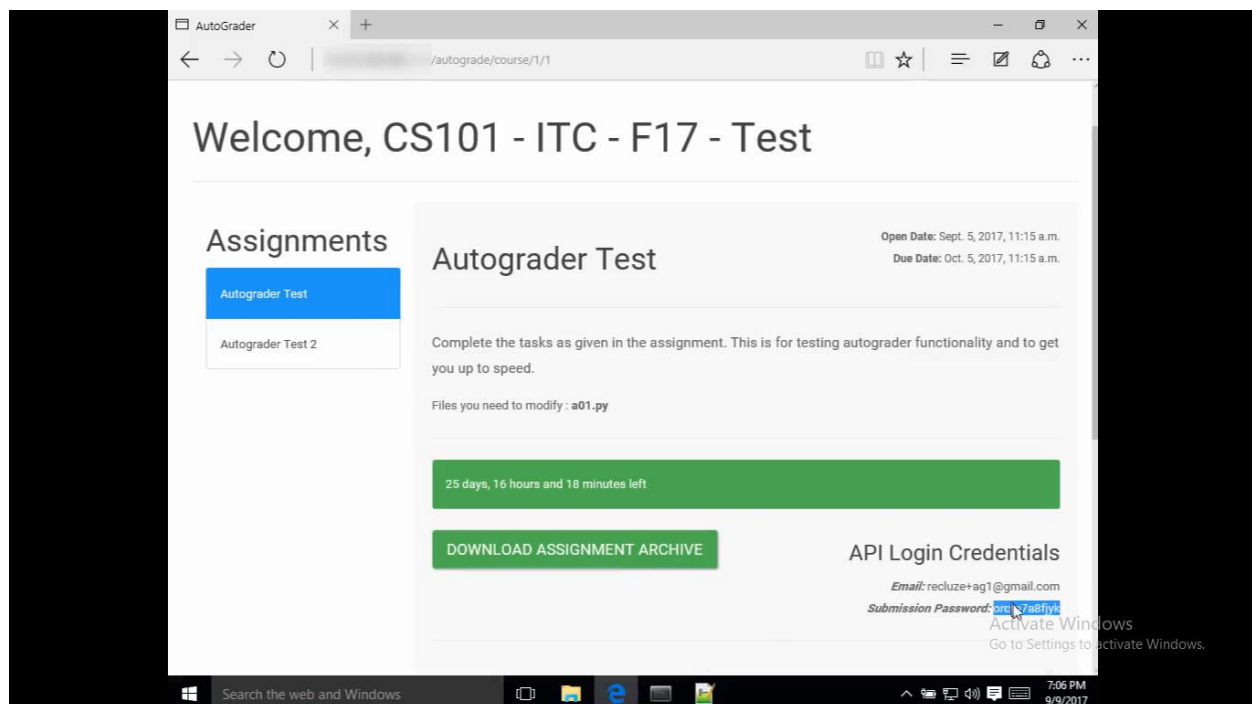
DEBUG:root:Restoring working directory ...
DEBUG:root:Read test line [ 2 passed in 0.19 seconds ]
DEBUG:root:Calculated score: (2, 0, 100.0)
INFO:root:RESULT: passed: 2 failed: 0 percent: 100.0
DEBUG:root:Writing log to: C:\Users\Nauman\Documents\cs101\test-results.log

(C:\Users\Nauman\Anaconda2) C:\Users\Nauman\Documents\cs101>python run.py remote
INFO:root:Initiated
INFO:root:Reading config file
INFO:root:Deleting old submission file
INFO:root:No submission file found
INFO:root:Creating compressed submission file
INFO:root:Closing zipped submission file
INFO:root:Asking for API login details
Enter Email: recluze+ag1@gmail.com
Submission Password:

```

Your email (you can take from assignment page as well)

Submission password (also from assignment page)



After writing email and submission password press enter. You will see your submission has been done

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```
Select Anaconda Prompt

platform win32 -- Python 2.7.13. nvtest-3.0.7, py-1.4.33, pluggy-0.4.0
rootdir: C:\Users\Nau s101, inifile:
plugins: timeout-1.2.
timeout: 3.0s method: thread
collected 2 items

test_student.py ..

===== 2 passed in 0.19 seconds =====

DEBUG:root:Restoring working directory ...
DEBUG:root:Read test line [ 2 passed in 0.19 seconds ]
DEBUG:root:Calculated score: (2, 0, 100.0)
INFO:root:RESULT: passed: 2 failed: 0 percent: 100.0
DEBUG:root:Writing log to: C:\Users\Nauman\Documents\cs101\test-results.log

(C:\Users\Nauman\Anaconda2) C:\Users\Nauman\Documents\cs101>python run.py remote
INFO:root:Initiated
INFO:root:Reading config file
INFO:root:Deleting old submission file
INFO:root:No submission file found
INFO:root:Creating compressed submission file
INFO:root:Closing zipped submission file
INFO:root:Asking for API login details
Enter Email: recluze+ag1@gmail.com
Submission Password: orcfe7a8fjyk
INFO:root:
INFO:root:Sending submission file to server
DEBUG:requests.packages.urllib3.connectionpool:Starting new HTTP connection (1): 121.52.146.108
DEBUG:requests.packages.urllib3.connectionpool:http://121.52.146.108:8000 "POST /autograde/api/submit_assignment HTTP/1.1" 200 59
INFO:root:Deleting submission file
INFO:root:Saving credentials to config file
INFO:root:RESPONSE: passed: 4 failed: 0 percent: 10.0
INFO:root:NOTE: You can see your submission on web interface also.

(C:\Users\Nauman\Anaconda2) C:\Users\Nauman\Documents\cs101>
```

AutoGrader

/autograde/course/1/1

email: recluze+ag1@gmail.com
Submission Password: orcfe7a8fjyk

Submission Instructions

1. Download the archive and extract it in any folder.
2. Complete the tasks required.
3. Run local tests using: `python run.py local`
4. After local tests are successful, submit using: `python run.py remote`
5. Enter the login credentials shown on this page when prompted by the script.
6. After submission, ensure your results are showing on this page.

Note: Do not modify files other than those mentioned in the assignment description.

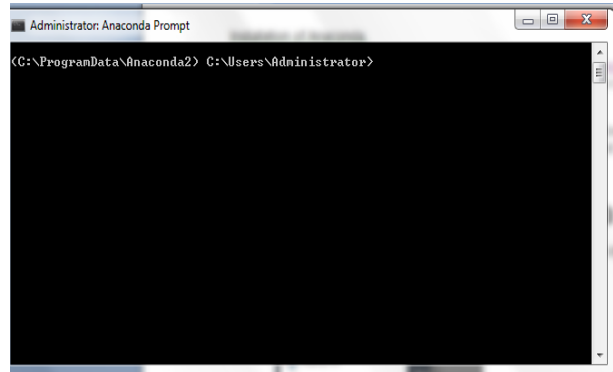
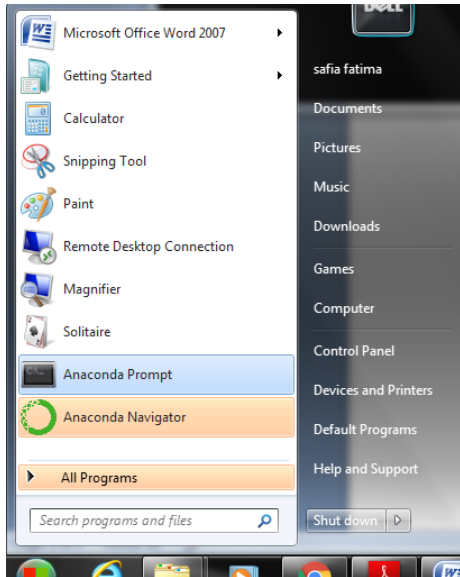
Submission History

Sr.	Submission Date	Passed	Failed	Score	Log
1	Sept. 9, 2017, 6:58 p.m.	4	0	10.0/10	VIEW

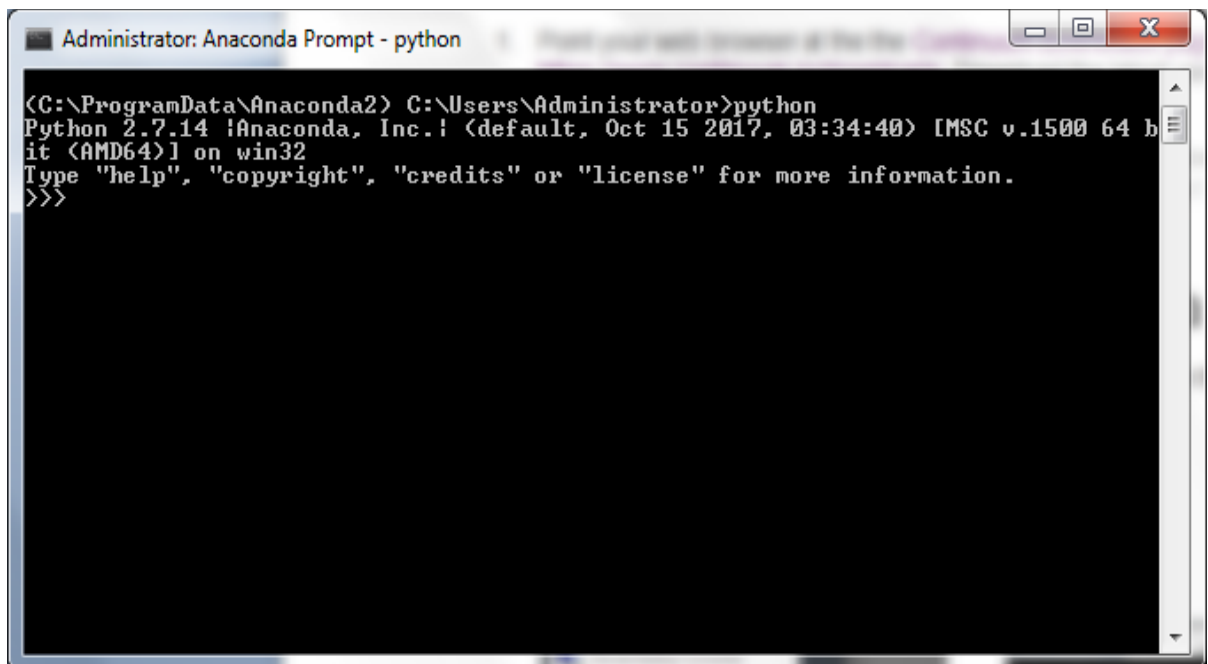
Server time: Sat, 9 Sep 2017 18:59:21 +0500

Getting started with Anaconda Python

1. Your initial interaction with anaconda Python will be through the terminal.



2. To check the python version write “python”



- To install jupyter notebook write “conda install jupyter notebook” on anaconda prompt (does not need to do because by default it is install if incase its not follow this step)

Conda install jupyter notebook

```

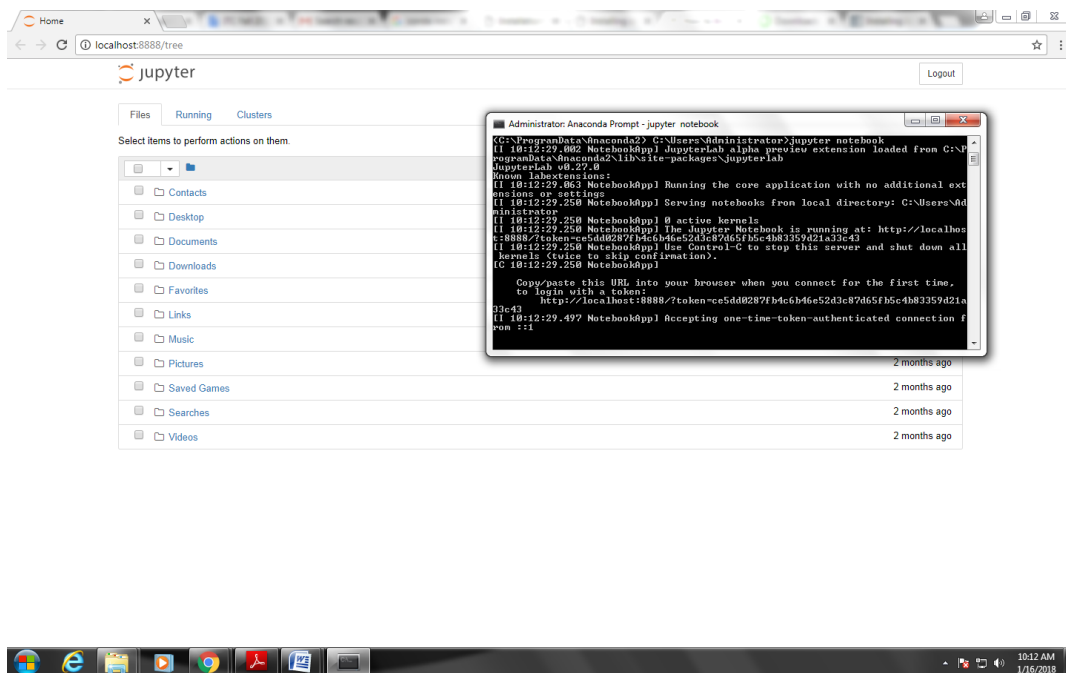
Administrator: Anaconda Prompt - conda install jupyter notebook

(C:\ProgramData\Anaconda2) C:\Users\Administrator>python
Python 2.7.14 |Anaconda, Inc.| <default, Oct 15 2017, 03:34:40> [MSC v.1500 64 b
it (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
KeyboardInterrupt
>>> conda install jupyter notebook
  File "<stdin>", line 1
    conda install jupyter notebook
          ^
SyntaxError: invalid syntax
>>> conda install jupyter notebook
KeyboardInterrupt
>>> exit
Use exit() or Ctrl-Z plus Return to exit
>>> exit()

(C:\ProgramData\Anaconda2) C:\Users\Administrator>conda install jupyter noteboo
k
Fetching package metadata .....
```

- Congratulations, you have installed Jupyter Notebook. To run the notebook:

jupyter notebook

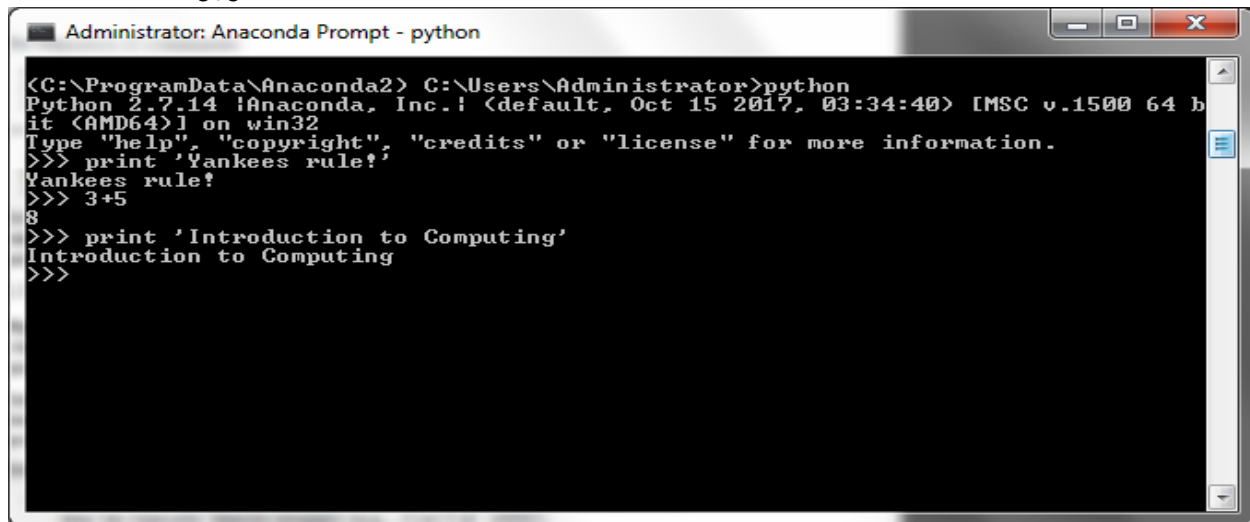


Basic python Script

A Python program, sometimes called a script, is a sequence of definitions and Commands.

The symbol `>>>` is a shell prompt indicating that the interpreter is expecting the user to type some Python code into the shell. The line below the line with the prompt is produced when the interpreter evaluates the Python code entered at the prompt, as illustrated by the following interaction with the interpreter:

- Print 'hello world!'
- `3+5`



```

Administrator: Anaconda Prompt - python
(C:\ProgramData\Anaconda2) C:\Users\Administrator>python
Python 2.7.14 |Anaconda, Inc.| (default, Oct 15 2017, 03:34:40) [MSC v.1500 64 b
it (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> print 'Yankees rule!'
Yankees rule!
>>> 3+5
8
>>> print 'Introduction to Computing'
Introduction to Computing
>>>
  
```

To exit the interpreter write **exit()**

Running Python code on anaconda CMD

1. Go to the directory where **.py** file is located.
2. To run a python script from anaconda prompt write:

```
Python file-name.py
```



```

(C:\ProgramData\Anaconda2) C:\Users\Administrator\ITC lab>python test.py
heelo world!

(C:\ProgramData\Anaconda2) C:\Users\Administrator\ITC lab>_
  
```

Basic Functions

1. Bin(x)

```
In [2]: bin(10)
Out[2]: '0b1010'
```

2. hex(x)

Convert an integer number (of any size) to a lowercase hexadecimal string prefixed with “0x”, for example:

```
In [7]: hex(52)
Out[7]: '0x34'

In [9]: hex(1)
Out[9]: '0x1'

In [10]: hex(199)
Out[10]: '0xc7'
```

3. min(agr1,arg2)

min(arg1, arg2, agr3,agr4)

Return the smallest item in an iterable or the smallest of two or more arguments

4. max(agr1,arg2)

max(arg1, arg2, agr3,agr4)

Return the largest item in an iterable or the smallest of two or more arguments

```
In [11]: max(5,7,8,10,0)
```

```
Out[11]: 10
```

```
In [12]: max(5,1)
```

```
Out[12]: 5
```

```
In [13]: max(5,7,8,10,0)
```

```
Out[13]: 10
```

```
In [14]: min(5,1)
```

```
Out[14]: 1
```

```
In [15]: min(5,7,8,10,0)
```

```
Out[15]: 0
```

TASK

1. Run any 5 functions on jupyter notebook
2. Run a python script from anaconda prompt to print hello world!

For more detail in basic functions visit: <https://docs.python.org/2/library/functions.html>