Data Visualization
User Manual

** The manual is written on a Windows system, the images used to illustrate the steps will be represented with the Windows software*

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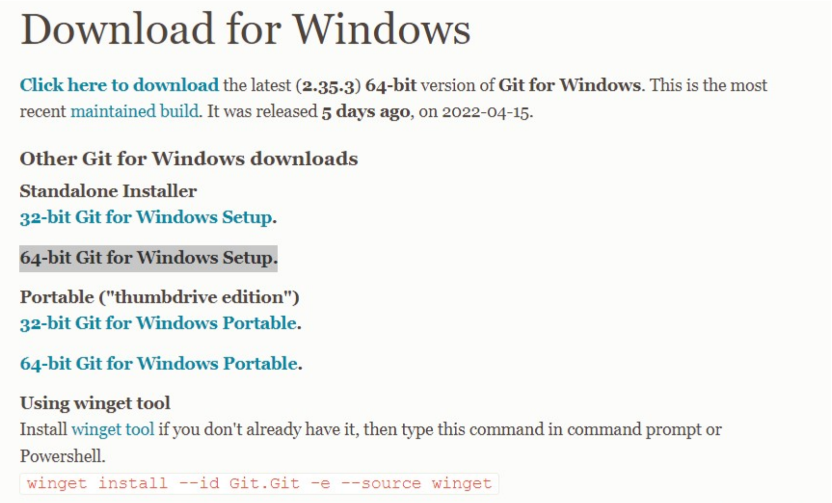
Git Bash Installation

Git Bash is required to run the Data Visualization software. If Git Bash is not already installed, the following will illustrate how to do so, otherwise move on to the next step.

1. Use the following link to download the version that best fits the operating system: https://git-scm.com/downloads.



Download for Windows

Click here to download the latest (**2.35.3**) **64-bit** version of **Git for Windows**. This is the most recent maintained build. It was released **5 days ago**, on 2022-04-15.

Other Git for Windows downloads

Standalone Installer

32-bit Git for Windows Setup.

64-bit Git for Windows Setup.

Portable ("thumbdrive edition")

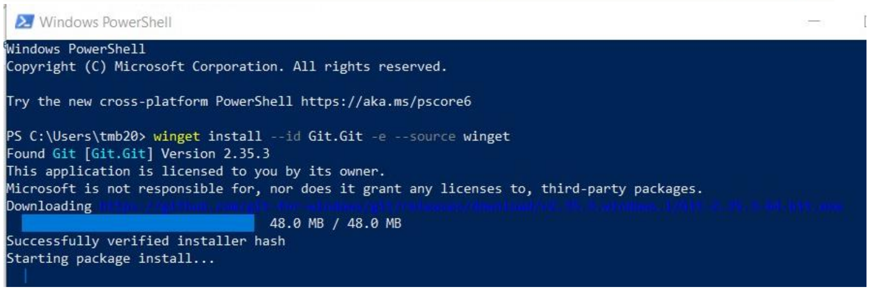
32-bit Git for Windows Portable.

64-bit Git for Windows Portable.

Using winget tool

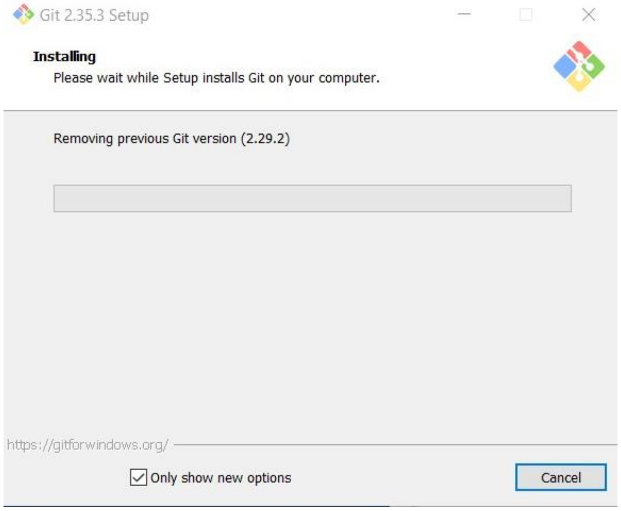
Install winget tool if you don't already have it, then type this command in command prompt or Powershell.

```
winget install --id Git.Git -e --source winget
```



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\tmb20> winget install --id Git.Git -e --source winget
Found Git [Git.Git] Version 2.35.3
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://github.com/git-for-windows/git/releases/download/v2.35.3.windows.1/Git-2.35.3-64-bit.exe
                            48.0 MB / 48.0 MB
Successfully verified installer hash
Starting package install...
```

2. Once the downloaded executable is run, or the command run on the system command prompt, the Git Bash will install with no further prompt.



Installing

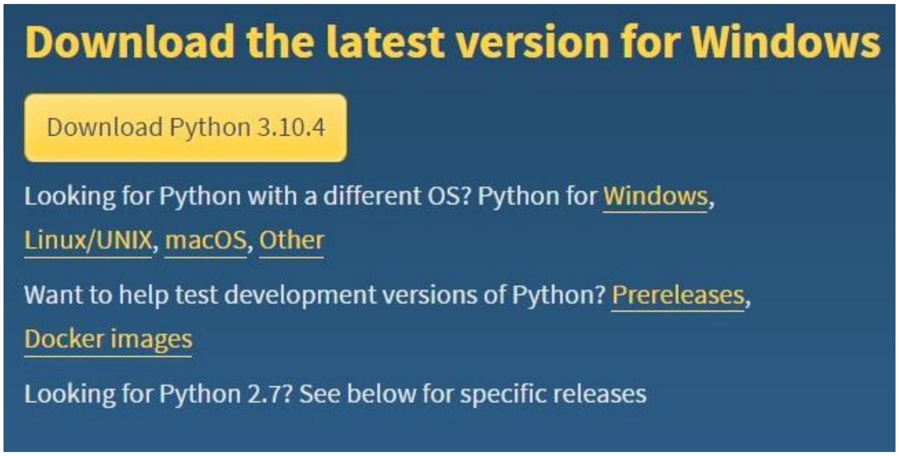
Please wait while Setup installs Git on your computer.

Removing previous Git version (2.29.2)

Python Installation

Python is required to run the program; the following steps will show how to install it. If python is already installed, the move on to the next step.

1. Use the following link to download the version that best fits the operating system: https://www.python.org/downloads/. Run the file selected to complete the installation.



Download the latest version for Windows

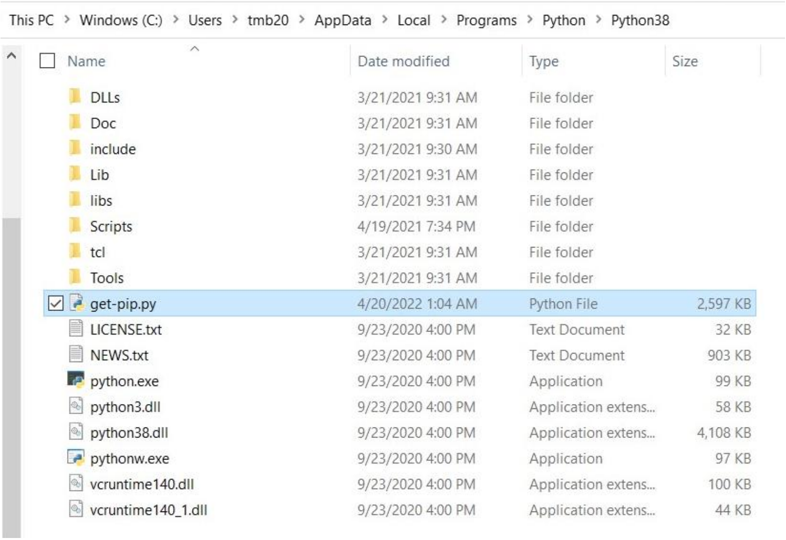
Download Python 3.10.4

Looking for Python with a different OS? Python for Windows, Linux/UNIX, macOS, Other

Want to help test development versions of Python? Prereleases, Docker images

Looking for Python 2.7? See below for specific releases

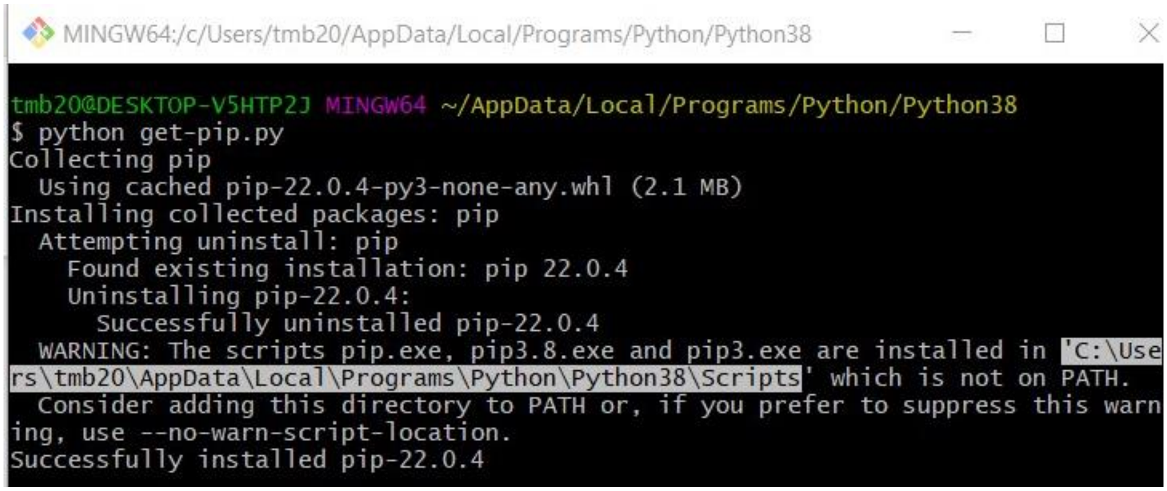
2. Pip should come installed with python, but if it is not save the file in the following link in within the python directory: https://bootstrap.pypa.io/get-pip.py



This PC › Windows (C:) › Users › tmb20 › AppData › Local › Programs › Python › Python38

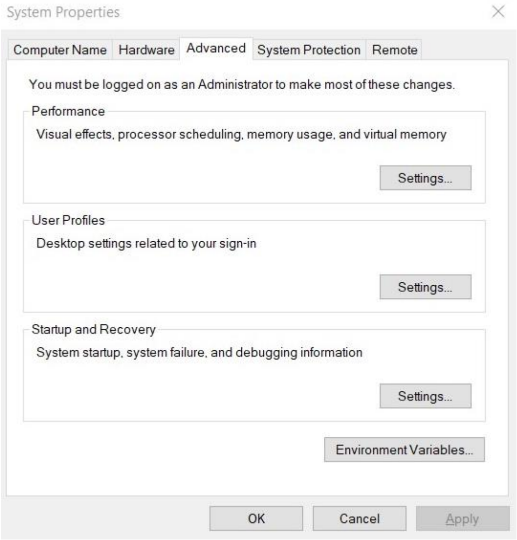
□ Name	Date modified	Type	Size
DLLs	3/21/2021 9:31 AM	File folder	
Doc	3/21/2021 9:31 AM	File folder	
include	3/21/2021 9:30 AM	File folder	
Lib	3/21/2021 9:31 AM	File folder	
libs	3/21/2021 9:31 AM	File folder	
Scripts	4/19/2021 7:34 PM	File folder	
tcl	3/21/2021 9:31 AM	File folder	
Tools	3/21/2021 9:31 AM	File folder	
☑ get-pip.py	4/20/2022 1:04 AM	Python File	2,597 KB
LICENSE.txt	9/23/2020 4:00 PM	Text Document	32 KB
NEWS.txt	9/23/2020 4:00 PM	Text Document	903 KB
python.exe	9/23/2020 4:00 PM	Application	99 KB
python3.dll	9/23/2020 4:00 PM	Application extens...	58 KB
python38.dll	9/23/2020 4:00 PM	Application extens...	4,108 KB
pythonw.exe	9/23/2020 4:00 PM	Application	97 KB
vcruntime140.dll	9/23/2020 4:00 PM	Application extens...	100 KB
vcruntime140_1.dll	9/23/2020 4:00 PM	Application extens...	44 KB

3. Once the file is saved, open Git Bash, change into to the directory containing the saved file, and run the following command: `python get-pip.py`. You may check that it is installed correctly by changing to the directory stated by the output and running the command: `pip -V`


MINGW64:/c/Users/tmb20/AppData/Local/Programs/Python/Python38

```
tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38
$ python get-pip.py
Collecting pip
  Using cached pip-22.0.4-py3-none-any.whl (2.1 MB)
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 22.0.4
    Uninstalling pip-22.0.4:
      Successfully uninstalled pip-22.0.4
  WARNING: The scripts pip.exe, pip3.8.exe and pip3.exe are installed in 'C:\Use
rs\tmb20\AppData\Local\Programs\Python\Python38\Scripts' which is not on PATH.
  Consider adding this directory to PATH or, if you prefer to suppress this warn
ing, use --no-warn-script-location.
Successfully installed pip-22.0.4
```

4. On a Windows system, pip may need to be added to the PATH. On Windows, run sysdm.cpl, and go to the advanced tab



You must be logged on as an Administrator to make most of these changes.

Performance

Visual effects, processor scheduling, memory usage, and virtual memory

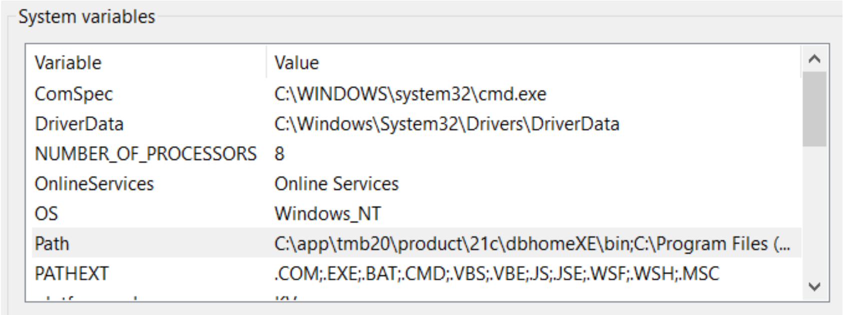
User Profiles

Desktop settings related to your sign-in

Startup and Recovery

System startup, system failure, and debugging information

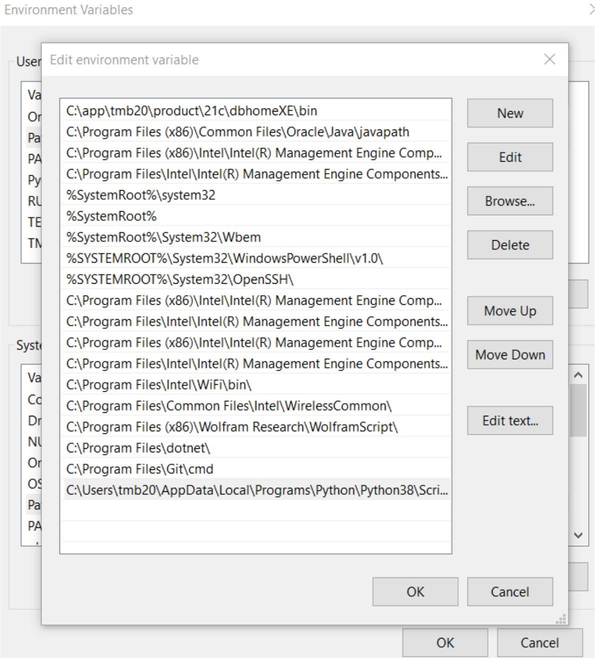
5. Open “Environment Variables” and select Path



System variables

Variable	Value
ComSpec	C:\WINDOWS\system32\cmd.exe
DriverData	C:\Windows\System32\Drivers\DriverData
NUMBER_OF_PROCESSORS	8
OnlineServices	Online Services
OS	Windows_NT
Path	C:\app\tmb20\product\21c\dbhomeXE\bin;C:\Program Files (...
PATHEXT	.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC

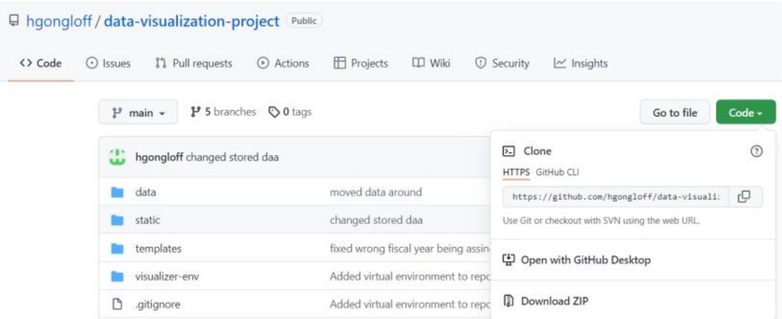
6. Select Edit, then New to add the path to pip

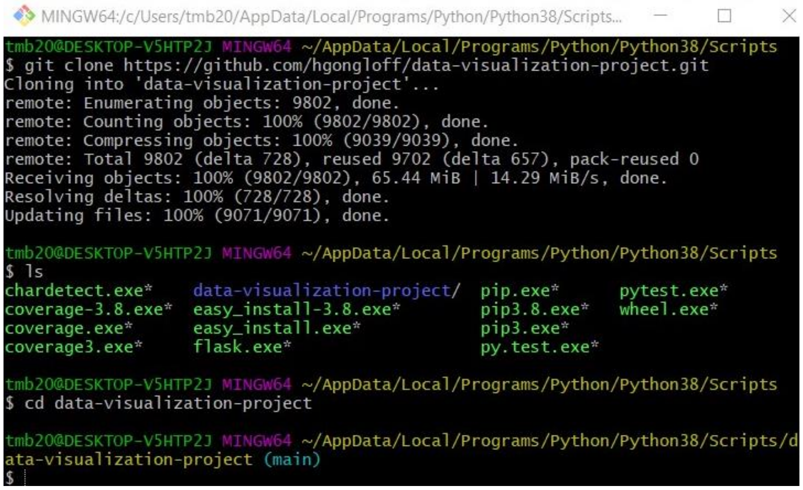


```
C:\app\tmb20\product\21c\dbhomeXE\bin
C:\Program Files (x86)\Common Files\Oracle\Java\javapath
C:\Program Files (x86)\Intel\Intel(R) Management Engine Comp...
C:\Program Files\Intel\Intel(R) Management Engine Components...
%SystemRoot%\system32
%SystemRoot%
%SystemRoot%\System32\Wbem
%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\
%SYSTEMROOT%\System32\OpenSSH\
C:\Program Files (x86)\Intel\Intel(R) Management Engine Comp...
C:\Program Files\Intel\Intel(R) Management Engine Components...
C:\Program Files (x86)\Intel\Intel(R) Management Engine Comp...
C:\Program Files\Intel\Intel(R) Management Engine Components...
C:\Program Files\Intel\WiFi\bin\
C:\Program Files\Common Files\Intel\WirelessCommon\
C:\Program Files (x86)\Wolfram Research\WolframScript\
C:\Program Files\dotnet\
C:\Program Files\Git\cmd
C:\Users\tmb20\AppData\Local\Programs\Python\Python38\Scri...
```

Preparing the Data Visualization software

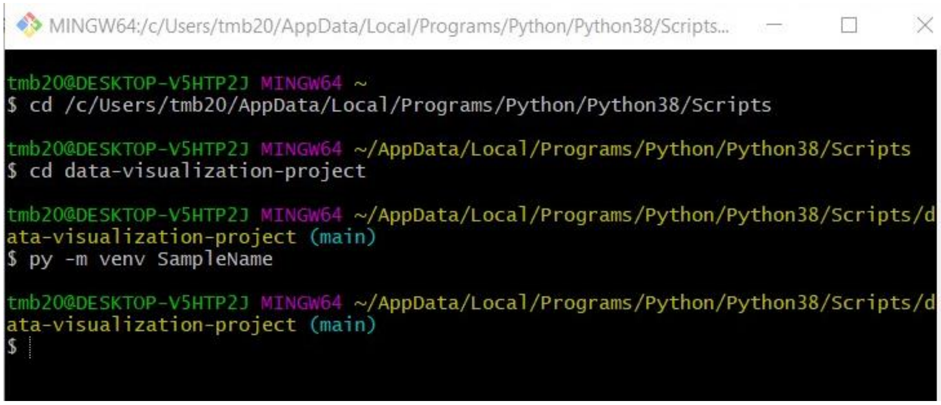
1. Open Git Bash and change into the directory where pip is installed, and copy the github repository, and change into its directory


hgongloff / data-visualization-project Public
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
main
5 branches
0 tags
Go to file
Code
hgongloff changed stored daa
data moved data around
static changed stored daa
templates fixed wrong fiscal year being assin
visualizer-env Added virtual environment to repc
.gitignore Added virtual environment to repc
Clone
HTTPS GitHub CLI
https://github.com/hgongloff/data-visuali:
Use Git or checkout with SVN using the web URL.
Open with GitHub Desktop
Download ZIP


MINGW64:/c/Users/tmb20/AppData/Local/Programs/Python/Python38/Scripts...

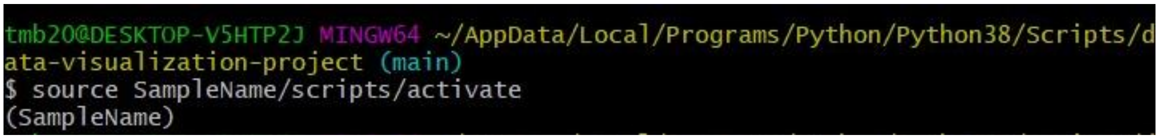
```
tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts
$ git clone https://github.com/hgongloff/data-visualization-project.git
Cloning into 'data-visualization-project'...
remote: Enumerating objects: 9802, done.
remote: Counting objects: 100% (9802/9802), done.
remote: Compressing objects: 100% (9039/9039), done.
remote: Total 9802 (delta 728), reused 9702 (delta 657), pack-reused 0
Receiving objects: 100% (9802/9802), 65.44 MiB | 14.29 MiB/s, done.
Resolving deltas: 100% (728/728), done.
Updating files: 100% (9071/9071), done.

tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts
$ ls
chardetect.exe*    data-visualization-project/  pip.exe*      pytest.exe*
coverage-3.8.exe*  easy_install-3.8.exe*        pip3.8.exe*   wheel.exe*
coverage.exe*      easy_install.exe*            pip3.exe*
coverage3.exe*     flask.exe*                   py.test.exe*

tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts
$ cd data-visualization-project

tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts/d
ata-visualization-project (main)
$
```

2. Create a python virtual environment using the following command: python -m venv environment-name or py -m venv environment-name (Replacing environment-name with whatever name you want)


MINGW64:/c/Users/tmb20/AppData/Local/Programs/Python/Python38/Scripts...

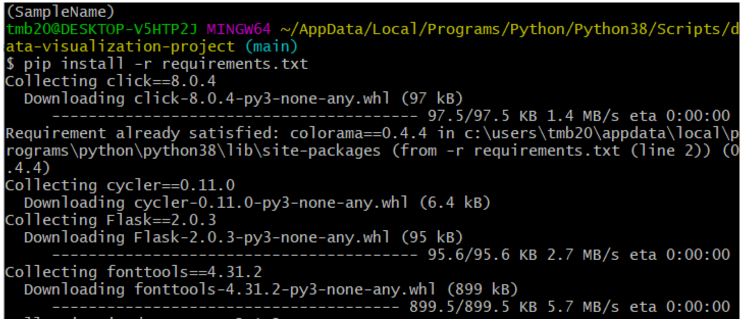
```
tmb20@DESKTOP-V5HTP2J MINGW64 ~
$ cd /c/Users/tmb20/AppData/Local/Programs/Python/Python38/Scripts

tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts
$ cd data-visualization-project

tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts/d
ata-visualization-project (main)
$ py -m venv SampleName

tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts/d
ata-visualization-project (main)
$
```

3. Run the virtual environment on windows in git bash using the following command: source environment-name/scripts/activate (Or on mac and linux source environment-name/bin/activate)



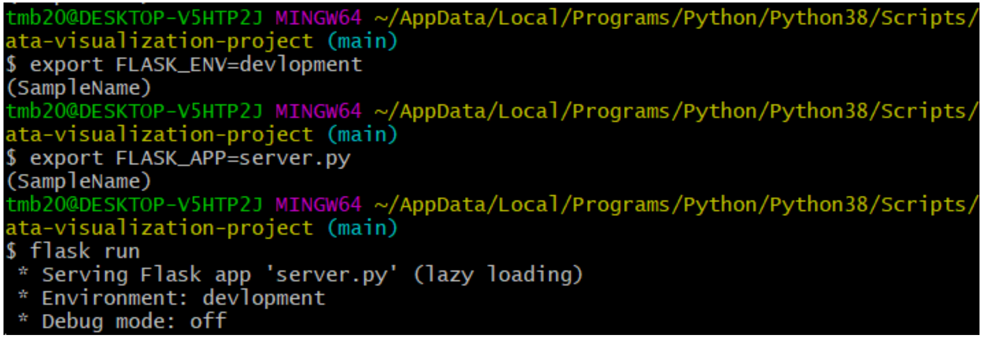
```
tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts/d
ata-visualization-project (main)
$ source SampleName/scripts/activate
(SampleName)
```

4. Install the necessary packages using the requirements.txt with the following command: pip install -r requirements.txt



```
(SampleName)
tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts/d
ata-visualization-project (main)
$ pip install -r requirements.txt
Collecting click==8.0.4
  Downloading click-8.0.4-py3-none-any.whl (97 kB)
     ---------------------------------------- 97.5/97.5 KB 1.4 MB/s eta 0:00:00
Requirement already satisfied: colorama==0.4.4 in c:\users\tmb20\appdata\local\p
rograms\python\python38\lib\site-packages (from -r requirements.txt (line 2)) (0
.4.4)
Collecting cycler==0.11.0
  Downloading cycler-0.11.0-py3-none-any.whl (6.4 kB)
Collecting Flask==2.0.3
  Downloading Flask-2.0.3-py3-none-any.whl (95 kB)
     ---------------------------------------- 95.6/95.6 KB 2.7 MB/s eta 0:00:00
Collecting fonttools==4.31.2
  Downloading fonttools-4.31.2-py3-none-any.whl (899 kB)
     -------------------------------------- 899.5/899.5 KB 5.7 MB/s eta 0:00:00
```

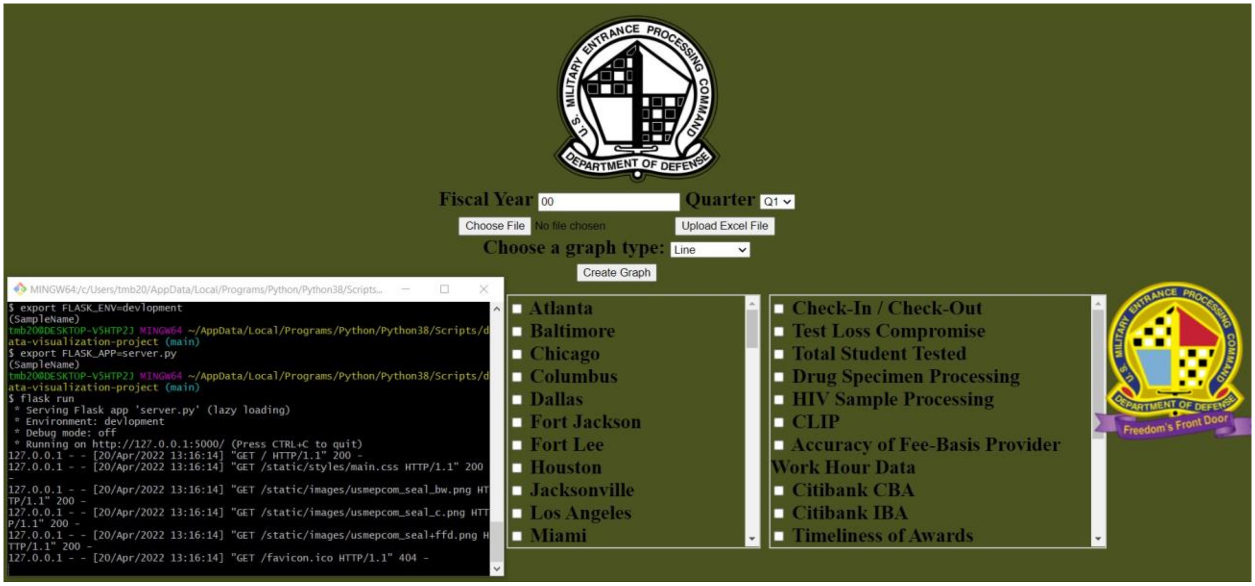
5. In order, enter the following commands: export FLASK_ENV=development, export FLASK_APP=server.py, flask run



```
tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts/
ata-visualization-project (main)
$ export FLASK_ENV=devlopment
(SampleName)
tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts/
ata-visualization-project (main)
$ export FLASK_APP=server.py
(SampleName)
tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts/
ata-visualization-project (main)
$ flask run
 * Serving Flask app 'server.py' (lazy loading)
 * Environment: devlopment
 * Debug mode: off
```

Note: The program can be run with runServer.sh within the repository instead of the commands listed above.

6. Ctrl + click on the link that is produced to open the Data Visualization



Fiscal Year 00 Quarter Q1

No file chosen

Choose a graph type: Line

MINGW64:/c/Users/tmb20/AppData/Local/Programs/Python/Python38/Scripts...

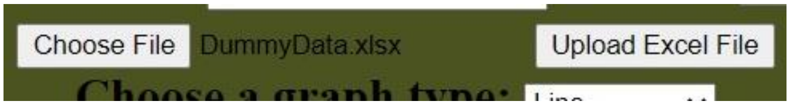
```
$ export FLASK_ENV=devlopment
(SampleName)
tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts/d
ata-visualization-project (main)
$ export FLASK_APP=server.py
(SampleName)
tmb20@DESKTOP-V5HTP2J MINGW64 ~/AppData/Local/Programs/Python/Python38/Scripts/d
ata-visualization-project (main)
$ flask run
 * Serving Flask app 'server.py' (lazy loading)
 * Environment: devlopment
 * Debug mode: off
 * Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
127.0.0.1 - - [20/Apr/2022 13:16:14] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [20/Apr/2022 13:16:14] "GET /static/styles/main.css HTTP/1.1" 200
-
127.0.0.1 - - [20/Apr/2022 13:16:14] "GET /static/images/usmepcom_seal_bw.png HT
TP/1.1" 200 -
127.0.0.1 - - [20/Apr/2022 13:16:14] "GET /static/images/usmepcom_seal_c.png HTT
P/1.1" 200 -
127.0.0.1 - - [20/Apr/2022 13:16:14] "GET /static/images/usmepcom_seal+ffd.png H
TTP/1.1" 200 -
127.0.0.1 - - [20/Apr/2022 13:16:14] "GET /favicon.ico HTTP/1.1" 404 -
```

- ☐ Atlanta
- ☐ Baltimore
- ☐ Chicago
- ☐ Columbus
- ☐ Dallas
- ☐ Fort Jackson
- ☐ Fort Lee
- ☐ Houston
- ☐ Jacksonville
- ☐ Los Angeles
- ☐ Miami

- ☐ Check-In / Check-Out
- ☐ Test Loss Compromise
- ☐ Total Student Tested
- ☐ Drug Specimen Processing
- ☐ HIV Sample Processing
- ☐ CLIP
- ☐ Accuracy of Fee-Basis Provider Work Hour Data
- ☐ Citibank CBA
- ☐ Citibank IBA
- ☐ Timeliness of Awards

How to use the software

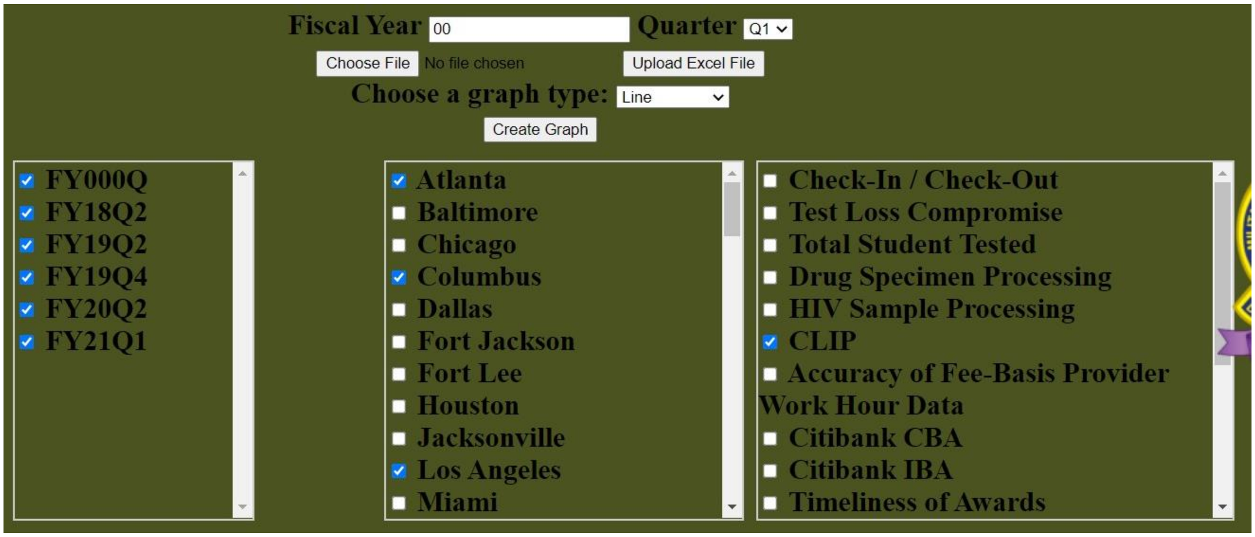
1. The software does not have data stored when it is run so a file will need to be uploaded, for this example, a set of dummy data will be used. Choose the file, and then upload it. The file must not be open, or the file will not be uploaded.



DummyData.xlsx

Choose a graph type: Line

2. Once the file is uploaded, select the parameters you want to see.



Fiscal Year 00 Quarter Q1

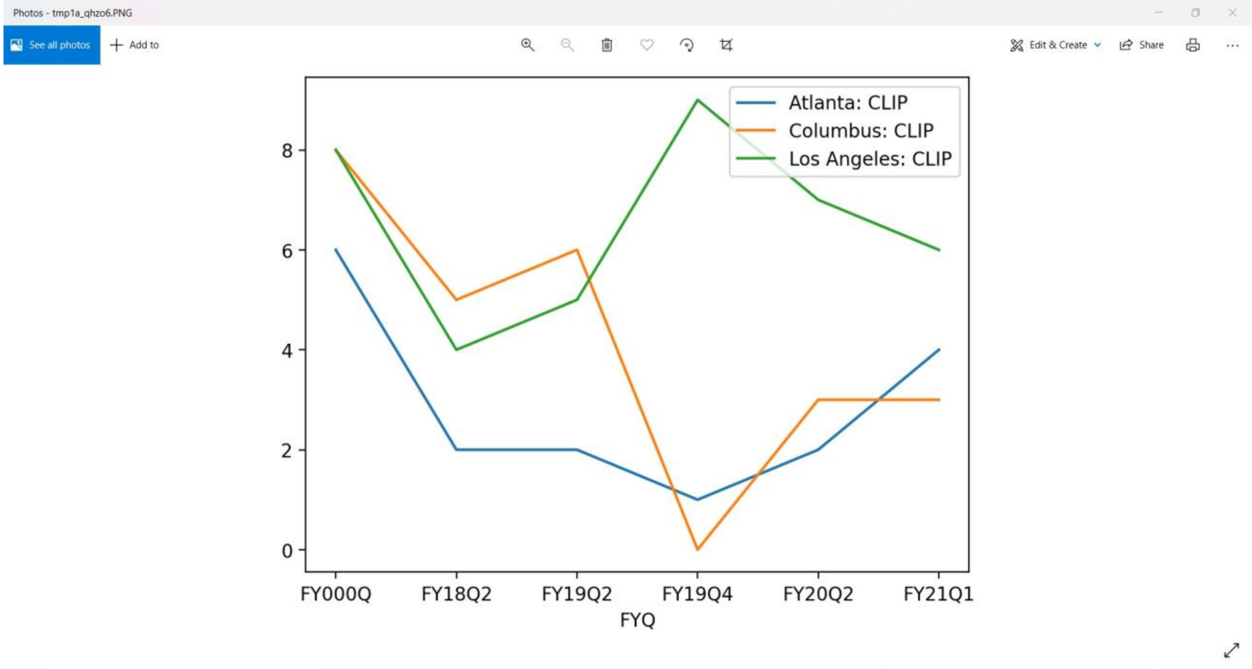
Choose a graph type: Line

- ☑ FY000Q
- ☑ FY18Q2
- ☑ FY19Q2
- ☑ FY19Q4
- ☑ FY20Q2
- ☑ FY21Q1

- ☑ Atlanta
- ☐ Baltimore
- ☐ Chicago
- ☑ Columbus
- ☐ Dallas
- ☐ Fort Jackson
- ☐ Fort Lee
- ☐ Houston
- ☐ Jacksonville
- ☑ Los Angeles
- ☐ Miami

- ☐ Check-In / Check-Out
- ☐ Test Loss Compromise
- ☐ Total Student Tested
- ☐ Drug Specimen Processing
- ☐ HIV Sample Processing
- ☑ CLIP
- ☐ Accuracy of Fee-Basis Provider Work Hour Data
- ☐ Citibank CBA
- ☐ Citibank IBA
- ☐ Timeliness of Awards

3. Select to create the graph and a new window will be made with the graph as a png file.


Photos - tmp1a_qhzo6.PNG
See all photos
Add to
Edit & Create
Share
Atlanta: CLIP
Columbus: CLIP
Los Angeles: CLIP
0
2
4
6
8
FY000Q
FY18Q2
FY19Q2
FY19Q4
FY20Q2
FY21Q1
FYQ