

Task 0.1 - Software Installation

This file contains instruction to download the following software/libraries:

1. Python
2. Numpy
3. OpenCV
4. PyOpenGL
5. Pillow
6. Pygame

Note:- Installation of software is tested on Windows 10

Please follow the steps given below:-

- **Python**
 - Download Python 3.5.4 for Windows from [here](#).
 - On the first download screen, enable the “Add Python 3.5 to PATH” option

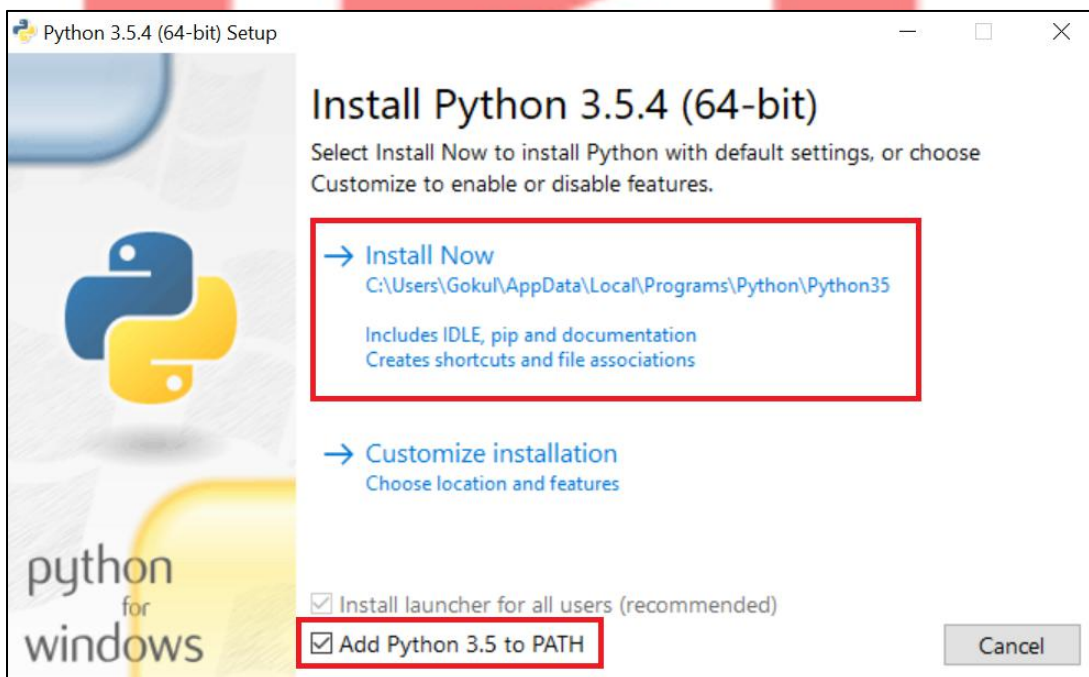
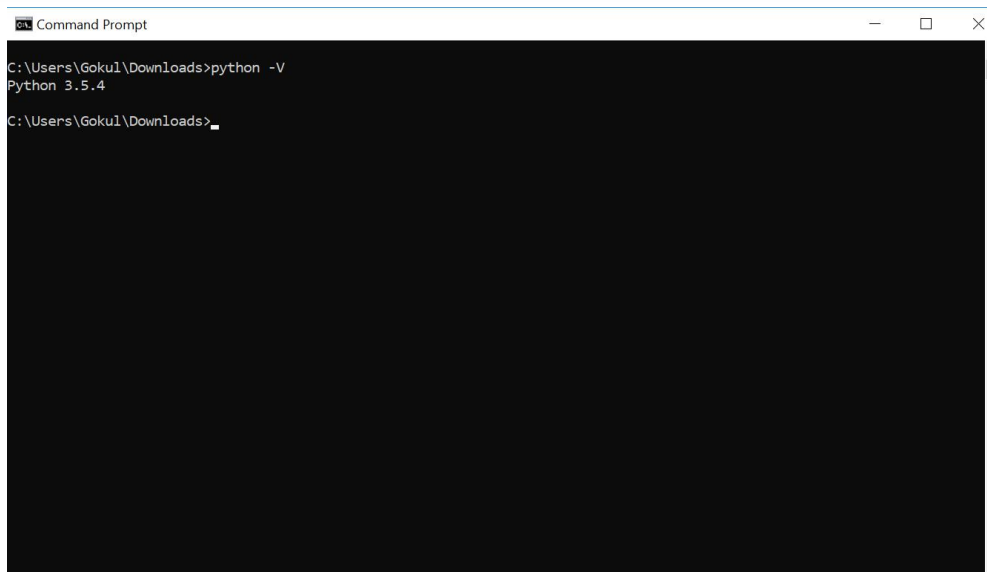


Figure 1: Python Installation

- In order to verify the installation of Python:
 - ◆ Open command prompt, type `python -V` and press Enter.
 - ◆ You should see the prompt as shown in Fig 2



```

C:\Users\Gokul\Downloads>python -V
Python 3.5.4
C:\Users\Gokul\Downloads>_
    
```

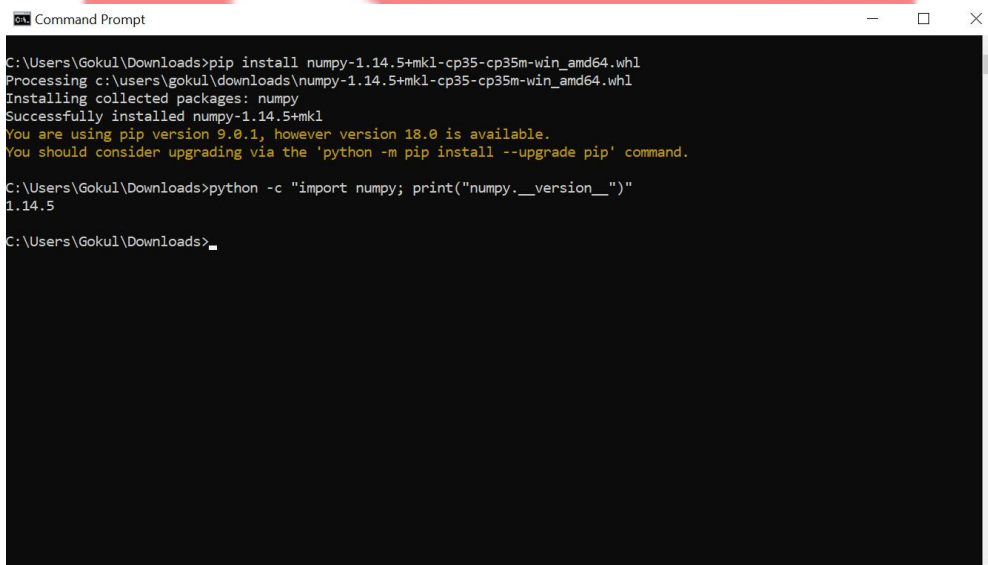
Figure 2: Check Python Installation

To install the remaining libraries, first download the .whl files for python 3.5 from the following link: <https://goo.gl/Vk63hW>

● Numpy

- To install Numpy, open the command prompt and type the following command:


```
pip install numpy-1.14.5+mkl-cp35-cp35m-win_amd64.whl
```
- In order to verify the installation do the following:
 - ◆ Type `python -c "import numpy; print('numpy.__version__')"` in the command prompt as press Enter
 - ◆ You should see the command prompt as shown in Fig 3.



```

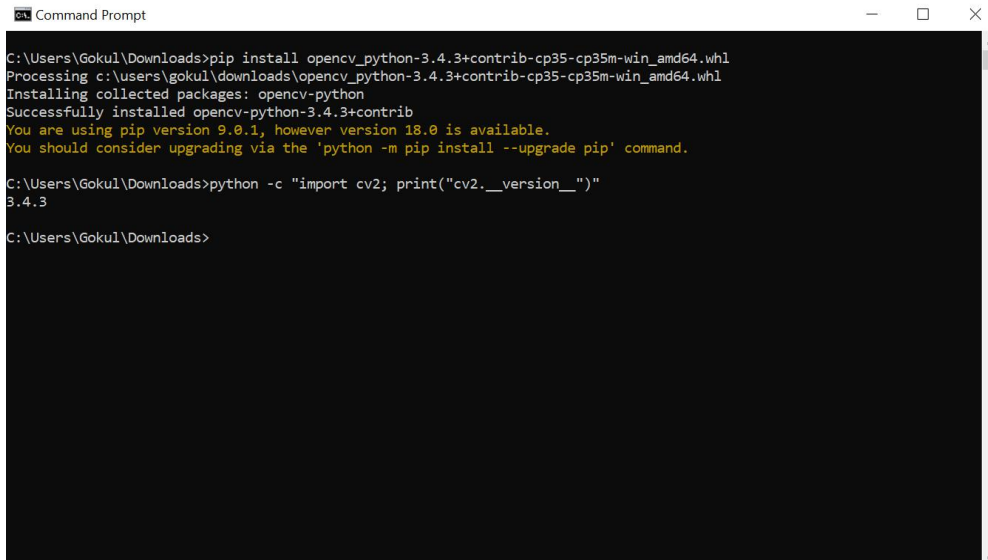
C:\Users\Gokul\Downloads>pip install numpy-1.14.5+mkl-cp35-cp35m-win_amd64.whl
Processing c:\users\gokul\downloads\numpy-1.14.5+mkl-cp35-cp35m-win_amd64.whl
Installing collected packages: numpy
Successfully installed numpy-1.14.5+mkl
You are using pip version 9.0.1, however version 18.0 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.

C:\Users\Gokul\Downloads>python -c "import numpy; print('numpy.__version__')
1.14.5
C:\Users\Gokul\Downloads>_
    
```

Figure 3: Check Numpy Installation

● OpenCV

- To install OpenCV, open the command prompt and type the following command:
`pip install opencv_python-3.4.3+contrib-cp35-cp35m-win_amd64.whl`
- In order to verify the installation do the following:
 - ◆ Type `python -c "import cv2; print('cv2.__version__')"` in the command prompt and Press Enter.
 - ◆ You should see the command prompt as shown in Fig 4.



```

C:\Users\Gokul\Downloads>pip install opencv_python-3.4.3+contrib-cp35-cp35m-win_amd64.whl
Processing c:\users\gokul\downloads\opencv_python-3.4.3+contrib-cp35-cp35m-win_amd64.whl
Installing collected packages: opencv-python
Successfully installed opencv-python-3.4.3+contrib
You are using pip version 9.0.1, however version 18.0 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.

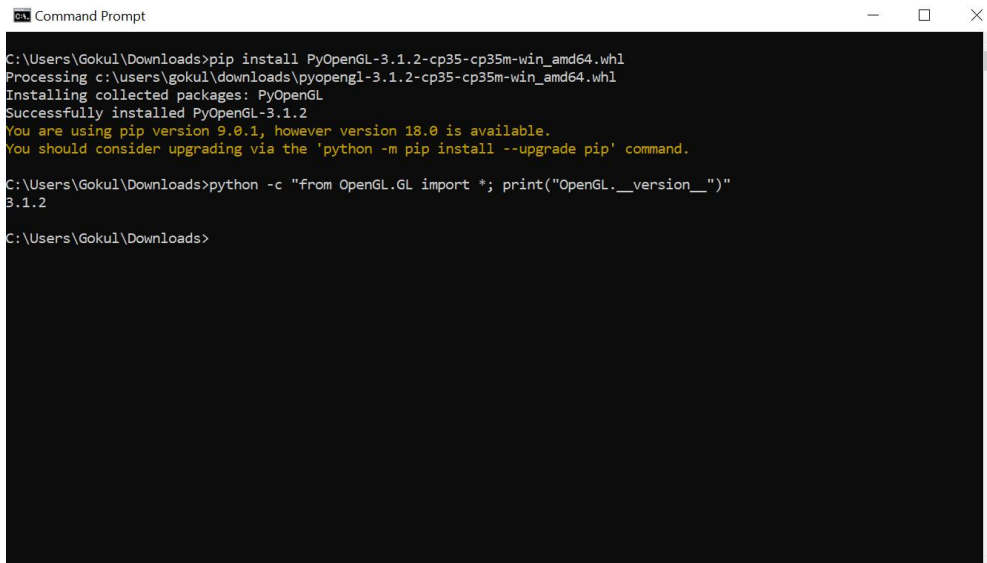
C:\Users\Gokul\Downloads>python -c "import cv2; print('cv2.__version__')"
3.4.3

C:\Users\Gokul\Downloads>
  
```

Figure 4: Check OpenCV Installation

● PyOpenGL

- To install OpenGL, open the command prompt and type the following command:
`pip install PyOpenGL-3.1.2-cp35-cp35m-win_amd64.whl`
- In order to verify the installation do the following:
 - ◆ Type `python -c "from OpenGL.GL import *; print('OpenGL.__version__')"` in the command prompt and Press Enter.
 - ◆ You should see the command prompt as shown in Fig 5.



```

C:\Users\Gokul\Downloads>pip install PyOpenGL-3.1.2-cp35-cp35m-win_amd64.whl
Processing c:\users\gokul\downloads\pyopengl-3.1.2-cp35-cp35m-win_amd64.whl
Installing collected packages: PyOpenGL
Successfully installed PyOpenGL-3.1.2
You are using pip version 9.0.1, however version 18.0 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.

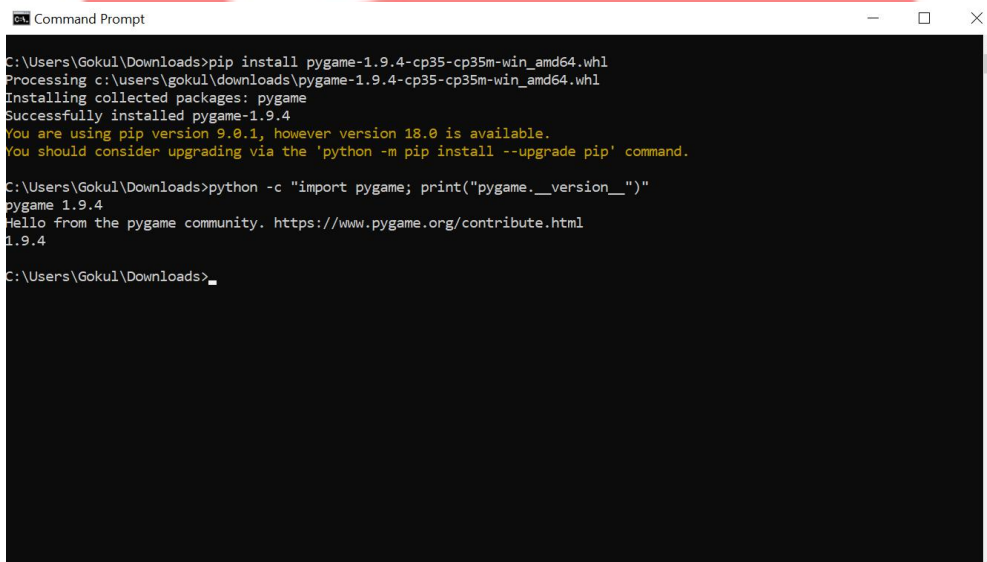
C:\Users\Gokul\Downloads>python -c "from OpenGL.GL import *; print('OpenGL.__version__')"
3.1.2

C:\Users\Gokul\Downloads>
  
```

Figure 5: Check OpenGL Installation

● Pygame

- To install pygame, open the command prompt and type the following command:
pip install pygame-1.9.4-cp35-cp35m-win_amd64.whl
- In order to verify the installation do the following:
 - ◆ Type *python -c "import pygame; print ('pygame.__version__')"* in the command prompt and Press Enter.
 - ◆ You should see the command prompt as shown in Fig 6.



```

C:\Users\Gokul\Downloads>pip install pygame-1.9.4-cp35-cp35m-win_amd64.whl
Processing c:\users\gokul\downloads\pygame-1.9.4-cp35-cp35m-win_amd64.whl
Installing collected packages: pygame
Successfully installed pygame-1.9.4
You are using pip version 9.0.1, however version 18.0 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.

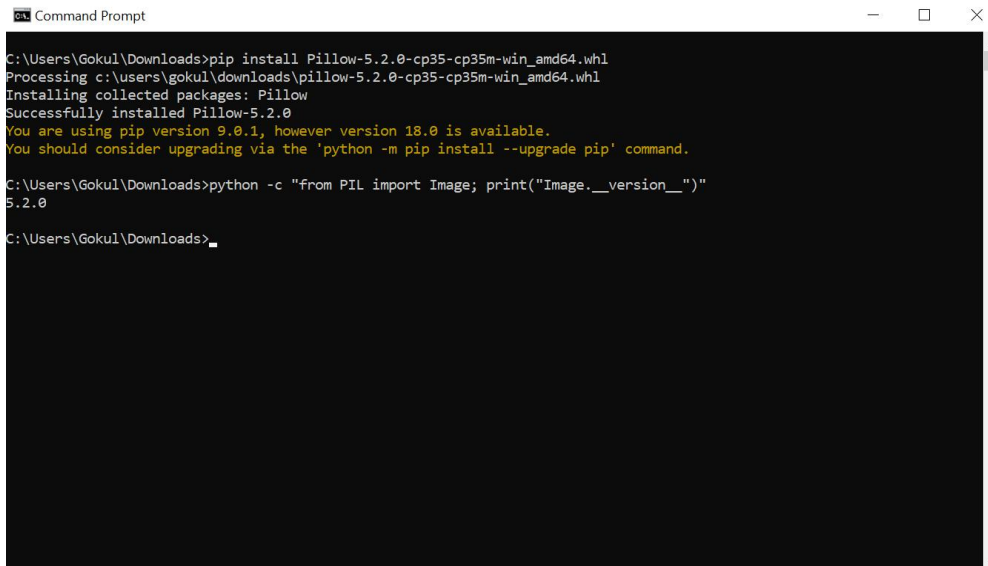
C:\Users\Gokul\Downloads>python -c "import pygame; print('pygame.__version__')"
pygame 1.9.4
Hello from the pygame community. https://www.pygame.org/contribute.html
1.9.4

C:\Users\Gokul\Downloads>_
  
```

Figure 6: Check Pygame Installation

- Pillow
 - To install Pillow, open the command prompt and type the following command:


```
pip install Pillow-5.2.0-cp35-cp35m-win_amd64.whl
```
 - In order to verify the installation do the following:
 - ◆ Type `python -c "from PIL import Image; print('Image.__version__')"` in the command prompt and Press Enter.
 - ◆ You should see the command prompt as shown in Fig 7.



```

C:\Users\Gokul\Downloads>pip install Pillow-5.2.0-cp35-cp35m-win_amd64.whl
Processing c:\users\gokul\downloads\pillow-5.2.0-cp35-cp35m-win_amd64.whl
Installing collected packages: Pillow
Successfully installed Pillow-5.2.0
You are using pip version 9.0.1, however version 18.0 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.

C:\Users\Gokul\Downloads>python -c "from PIL import Image; print('Image.__version__')"
5.2.0

C:\Users\Gokul\Downloads>_
  
```

Figure 7: Check Pillow Installation

Final Verification and Submission Instructions

After you have installed all the software and libraries, you need to do the Final Verification so that you have installed everything correctly. Please follow the following steps:

1. Open the Command Prompt in Windows
2. In the Command Prompt, navigate to the **Task 0.1** Folder that you have downloaded on your system.
3. Type the command `python checkversion.py` in the command prompt and press Enter.
4. You should see the command prompt as shown in Fig 8.


```

C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.17134.285]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\ERTS 1\Desktop\Thirsty Crow Documents\Task 0\Task 0.1>python checkversion.py
=====
Required Python Version is 3.5.4
Installed Python Version is: 3.5.4
Python Installation is OK!!
=====
Required Numpy version is: 1.14.x
Installed Numpy Version is: 1.14.5
Numpy Installation is OK!!
=====
Required OpenCV version is: 3.4.3
Installed OpenCV Version is: 3.4.3
OpenCV Aruco Library correctly installed
OpenCV Installation is OK!!
=====
pygame 1.9.4
Hello from the pygame community. https://www.pygame.org/contribute.html
Required Pygame version is: 1.9.4
Installed Pygame Version is: 1.9.4
Pygame Installation is OK!!
=====
Required PIL version is: 5.2.0
Installed PIL Version is: 5.2.0
PIL Installation is OK!!
=====
Required OpenGL version is: 3.1.2
Installed OpenGL Version is: 3.1.2
OpenGL Installation is OK!!
=====

C:\Users\ERTS 1\Desktop\Thirsty Crow Documents\Task 0\Task 0.1>

```

Figure 8: Final Verification

Submission Instructions

- ✓ If your checkversion.py runs with all OK, take a screenshot of the cmd prompt and save it as “Task_0_1_output.png”.
- ✓ Check the *Submission Instructions.pdf* for further instructions on how to upload your Task 0.

Note: Do not edit any line in “checkversion.py” . Teams found making any changes will be disqualified.