

## COMP 576: Assignment 0

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**Task 1:** In your terminal, run *conda info* and paste the result into your report.

```
platform : win-64
conda version : 4.3.21
conda is private : False
conda-env version : 4.3.21
conda-build version : not installed
python version : 3.6.1.final.0
requests version : 2.18.1
root environment : C:\Users\abhmu\Anaconda3 (writable)
default environment : C:\Users\abhmu\Anaconda3
envs directories : C:\Users\abhmu\Anaconda3\envs
                  C:\Users\abhmu\AppData\Local\conda\conda\envs
                  C:\Users\abhmu\.conda\envs
package cache : C:\Users\abhmu\Anaconda3\pkgs
                C:\Users\abhmu\AppData\Local\conda\conda\pkgs
channel URLs : https://repo.continuum.io/pkgs/free/win-64
               https://repo.continuum.io/pkgs/free/noarch
               https://repo.continuum.io/pkgs/r/win-64
               https://repo.continuum.io/pkgs/r/noarch
               https://repo.continuum.io/pkgs/pro/win-64
               https://repo.continuum.io/pkgs/pro/noarch
               https://repo.continuum.io/pkgs/msys2/win-64
               https://repo.continuum.io/pkgs/msys2/noarch
config file : None
netrc file : None
offline mode : False
user-agent : conda/4.3.21 requests/2.18.1 CPython/3.6.1 Windows/10 Windows/10.0.15063
administrator : False
```

**Task 2:**

**2**

**25**

**(5, 5)**

**5**

**[[ 1. 2. 3.]**

**[ 4. 5. 6.]]**

**[[ 1. 0. 0. 0. 0. 1. 0. 0. 0. 0.]**

**[ 0. 1. 0. 0. 0. 0. 1. 0. 0. 0.]**

**[ 0. 0. 1. 0. 0. 0. 0. 1. 0. 0.]**

**[ 0. 0. 0. 1. 0. 0. 0. 0. 1. 0.]**

**[ 0. 0. 0. 0. 1. 0. 0. 0. 0. 1.]]**

**[[ 1. 0. 0. 0. 0. 1. 0. 0. 0. 0.]**

**[ 0. 1. 0. 0. 0. 0. 1. 0. 0. 0.]**

**[ 0. 0. 1. 0. 0. 0. 0. 1. 0. 0.]**

**[ 0. 0. 0. 1. 0. 0. 0. 0. 1. 0.]**

**[ 0. 0. 0. 0. 1. 0. 0. 0. 0. 1.]]**

**[ 0. 0. 0. 0. 1.]**

**0.0**

**[ 0. 1. 0. 0. 0.]**

**[[ 1. 0. 0. 0. 0.]**

**[ 0. 1. 0. 0. 0.]**

**[ 0. 0. 1. 0. 0.]**

**[ 0. 0. 0. 1. 0.]**

**[ 0. 0. 0. 0. 1.]]**

**[[ 1. 0. 0. 0. 0.]**

**[ 0. 1. 0. 0. 0.]**

**[ 0. 0. 1. 0. 0.]**

**[ 0. 0. 0. 1. 0.]**

**[ 0. 0. 0. 0. 1.]]**

**[[ 0.]**

**[ 0.]**

**[ 0.]]**

**[[ 0. 0.]**

**[ 0. 0.]**

**[ 0. 0.]]**

**[[ 1. 0. 0. 0. 0.]**

**[ 0. 0. 1. 0. 0.]**

**[ 0. 0. 0. 0. 1.]]**

**[[ 0. 0. 0. 0. 1.]**

**[ 0. 0. 0. 1. 0.]**

**[ 0. 0. 1. 0. 0.]**

**[ 0. 1. 0. 0. 0.]**

**[ 1. 0. 0. 0. 0.]]**

**[[ 1. 0. 0. 0. 0.]**

```

[ 0.  1.  0.  0.  0.]
[ 0.  0.  1.  0.  0.]
[ 0.  0.  0.  1.  0.]
[ 0.  0.  0.  0.  1.]
[ 1.  0.  0.  0.  0.]]
[[ 1.  0.  0.  0.  0.]
[ 0.  1.  0.  0.  0.]
[ 0.  0.  1.  0.  0.]
[ 0.  0.  0.  1.  0.]
[ 0.  0.  0.  0.  1.]]
[[ 1.  0.  0.  0.  0.]
[ 0.  1.  0.  0.  0.]
[ 0.  0.  1.  0.  0.]
[ 0.  0.  0.  1.  0.]
[ 0.  0.  0.  0.  1.]]
[[ 1.  0.  0.  0.  0.]
[ 0.  1.  0.  0.  0.]
[ 0.  0.  1.  0.  0.]
[ 0.  0.  0.  1.  0.]
[ 0.  0.  0.  0.  1.]]
[[ 1. nan nan nan nan]
[ nan  1. nan nan nan]
[ nan nan  1. nan nan]
[ nan nan nan  1. nan]
[ nan nan nan nan  1.]]
[[ 1.  0.  0.  0.  0.]
[ 0.  1.  0.  0.  0.]
[ 0.  0.  1.  0.  0.]
[ 0.  0.  0.  1.  0.]
[ 0.  0.  0.  0.  1.]]
[[ True False False False False]
[False  True False False False]
[False False  True False False]
[False False False  True False]
[False False False False  True]]
(array([0, 1, 2, 3, 4]), array([0, 1, 2, 3, 4]))
[[ 1.  0.  0.  0.  0.]
[ 0.  1.  0.  0.  0.]
[ 0.  0.  1.  0.  0.]
[ 0.  0.  0.  1.  0.]

```

```
[ 0. 0. 0. 0. 1.]]
[[ 1. 0. 0. 0. 0.]
 [ 0. 1. 0. 0. 0.]
 [ 0. 0. 1. 0. 0.]
 [ 0. 0. 0. 1. 0.]
 [ 0. 0. 0. 0. 1.]]
[[ 1. 0. 0. 0. 0.]
 [ 0. 1. 0. 0. 0.]
 [ 0. 0. 1. 0. 0.]
 [ 0. 0. 0. 1. 0.]
 [ 0. 0. 0. 0. 1.]]
[ 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.]
[ 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.]
[ 0. 1. 2. 3. 4. 5. 6. 7. 8. 9.]
[ 0. 1. 2. 3. 4. 5. 6. 7. 8. 9.]
[ 0. 1. 2. 3. 4. 5. 6. 7. 8. 9.]
[[ 1.]
 [ 2.]
 [ 3.]
 [ 4.]
 [ 5.]
 [ 6.]
 [ 7.]
 [ 8.]
 [ 9.]
 [ 10.]]
[[ 0. 0. 0. 0.]
 [ 0. 0. 0. 0.]
 [ 0. 0. 0. 0.]]
[[[ 0. 0. 0. 0. 0.]
 [ 0. 0. 0. 0. 0.]
 [ 0. 0. 0. 0. 0.]
 [ 0. 0. 0. 0. 0.]]

[[ 0. 0. 0. 0. 0.]
 [ 0. 0. 0. 0. 0.]
 [ 0. 0. 0. 0. 0.]
 [ 0. 0. 0. 0. 0.]]

[[ 0. 0. 0. 0. 0.]
 [ 0. 0. 0. 0. 0.]
 [ 0. 0. 0. 0. 0.]
 [ 0. 0. 0. 0. 0.]]

[[ 1. 1. 1. 1.]
 [ 1. 1. 1. 1.]
```

```

[ 1. 1. 1. 1.]]
[[ 1. 0. 0.]
 [ 0. 1. 0.]
 [ 0. 0. 1.]]
[ 3. 3. 3. 3. 3.]
[ 3. 3. 3. 3. 3.]
[[ 0.73396468 0.43537318 0.64325945 0.40431101]
 [ 0.32908783 0.98274334 0.99883225 0.98298328]
 [ 0.46199723 0.67696224 0.67781655 0.39467979]]
[ 1.      1.66666667 2.33333333 3.      ]
[[[ 0. 0. 0. 0. 0. 0.]
 [ 1. 1. 1. 1. 1. 1.]
 [ 2. 2. 2. 2. 2. 2.]
 [ 3. 3. 3. 3. 3. 3.]
 [ 4. 4. 4. 4. 4. 4.]
 [ 5. 5. 5. 5. 5. 5.]
 [ 6. 6. 6. 6. 6. 6.]
 [ 7. 7. 7. 7. 7. 7.]
 [ 8. 8. 8. 8. 8. 8.]]

[[ 0. 1. 2. 3. 4. 5.]
 [ 0. 1. 2. 3. 4. 5.]
 [ 0. 1. 2. 3. 4. 5.]
 [ 0. 1. 2. 3. 4. 5.]
 [ 0. 1. 2. 3. 4. 5.]
 [ 0. 1. 2. 3. 4. 5.]
 [ 0. 1. 2. 3. 4. 5.]
 [ 0. 1. 2. 3. 4. 5.]
 [ 0. 1. 2. 3. 4. 5.]]
[array([[ 0., 1., 2., 3., 4., 5., 6., 7., 8.],
        [ 0., 1., 2., 3., 4., 5., 6., 7., 8.],
        [ 0., 1., 2., 3., 4., 5., 6., 7., 8.],
        [ 0., 1., 2., 3., 4., 5., 6., 7., 8.],
        [ 0., 1., 2., 3., 4., 5., 6., 7., 8.]], array([[ 0., 0., 0., 0., 0., 0., 0., 0., 0.],
        [ 1., 1., 1., 1., 1., 1., 1., 1., 1.],
        [ 2., 2., 2., 2., 2., 2., 2., 2., 2.],
        [ 3., 3., 3., 3., 3., 3., 3., 3., 3.],
        [ 4., 4., 4., 4., 4., 4., 4., 4., 4.],
        [ 5., 5., 5., 5., 5., 5., 5., 5., 5.]])]
[array([[ 0.],
        [ 1.],
        [ 2.],
        [ 3.],
        [ 4.],

```

```

    [ 5.],
    [ 6.],
    [ 7.],
    [ 8.]], array([[ 0.,  1.,  2.,  3.,  4.,  5.]])
(array([[ 0.],
        [ 1.],
        [ 2.],
        [ 3.],
        [ 4.],
        [ 5.],
        [ 6.],
        [ 7.],
        [ 8.]]), array([[ 0.,  1.,  2.,  3.,  4.,  5.]])
(array([[1, 2, 4],
        [1, 2, 4],
        [1, 2, 4]]), array([[2, 2, 2],
        [4, 4, 4],
        [5, 5, 5]]))
(array([[1],
        [2],
        [4]]), array([[2, 4, 5]]))
[[ 3.  3.  3.  3.  3.]
 [ 3.  3.  3.  3.  3.]
 [ 3.  3.  3.  3.  3.]
 [ 3.  3.  3.  3.  3.]
 [ 3.  3.  3.  3.  3.]]
[[ 3.  3.  3.  3.  3.  1.  0.  0.  0.  0.]
 [ 3.  3.  3.  3.  3.  0.  1.  0.  0.  0.]
 [ 3.  3.  3.  3.  3.  0.  0.  1.  0.  0.]
 [ 3.  3.  3.  3.  3.  0.  0.  0.  1.  0.]
 [ 3.  3.  3.  3.  3.  0.  0.  0.  0.  1.]]
[[ 3.  3.  3.  3.  3.]
 [ 3.  3.  3.  3.  3.]
 [ 3.  3.  3.  3.  3.]
 [ 3.  3.  3.  3.  3.]
 [ 3.  3.  3.  3.  3.]
 [ 1.  0.  0.  0.  0.]
 [ 0.  1.  0.  0.  0.]
 [ 0.  0.  1.  0.  0.]
 [ 0.  0.  0.  1.  0.]
 [ 0.  0.  0.  0.  1.]]
3.0
[ 3.  3.  3.  3.  3.]
[ 3.  3.  3.  3.  3.]
[[ 3.  3.  3.  3.  3.]

```

[ 3. 3. 3. 3. 3.]  
[ 3. 3. 3. 3. 3.]  
[ 3. 3. 3. 3. 3.]  
[ 3. 3. 3. 3. 3.]]

2.2360679775

[[ True False False False False]  
[False True False False False]  
[False False True False False]  
[False False False True False]  
[False False False False True]]

[[ True False False False False]  
[False True False False False]  
[False False True False False]  
[False False False True False]  
[False False False False True]]

[[ 1. 0. 0. 0. 0.]  
[ 0. 1. 0. 0. 0.]  
[ 0. 0. 1. 0. 0.]  
[ 0. 0. 0. 1. 0.]  
[ 0. 0. 0. 0. 1.]]

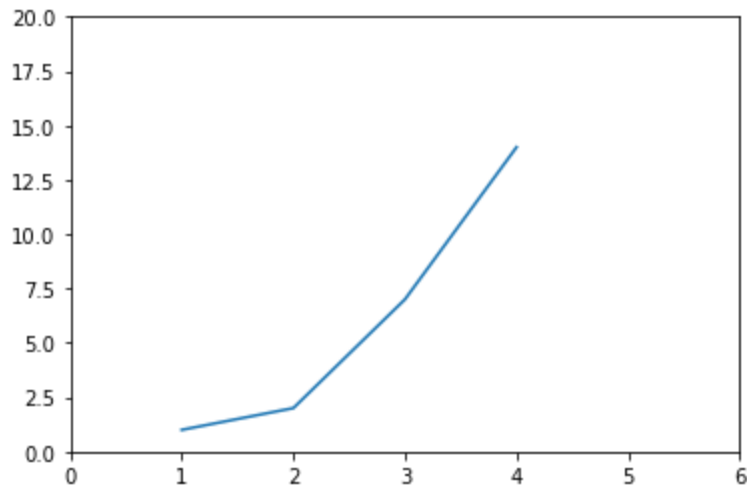
[[ 1. 0. 0. 0. 0.]  
[ 0. 1. 0. 0. 0.]  
[ 0. 0. 1. 0. 0.]  
[ 0. 0. 0. 1. 0.]  
[ 0. 0. 0. 0. 1.]]

5

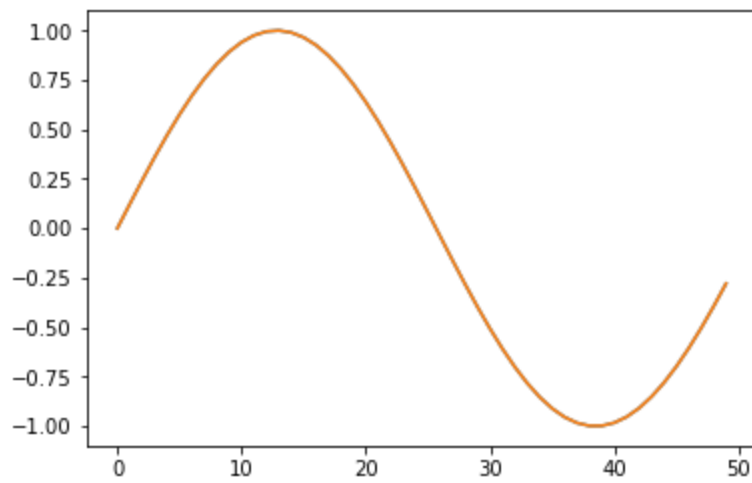
[[ 1. 0. 0. 0. 0.]  
[ 0. 1. 0. 0. 0.]  
[ 0. 0. 1. 0. 0.]  
[ 0. 0. 0. 1. 0.]  
[ 0. 0. 0. 0. 1.]]

[[ 1. 0. 0. 0. 0.]  
[ 0. 1. 0. 0. 0.]  
[ 0. 0. 1. 0. 0.]  
[ 0. 0. 0. 1. 0.]  
[ 0. 0. 0. 0. 1.]]

[[ 0. 0. 0. 0. 1.]  
[ 0. 0. 0. 0. 1.]  
[ 0. 0. 0. 0. 1.]  
[ 0. 0. 0. 0. 1.]  
[ 0. 0. 0. 0. 1.]]



**Task 3:**



**Task 4:**

**Task 5:**

Github Account

Username: abhmul

Link: <https://github.com/abhmul>

**Task 6:**

Project Link: <https://github.com/abhmul/COMP-576>