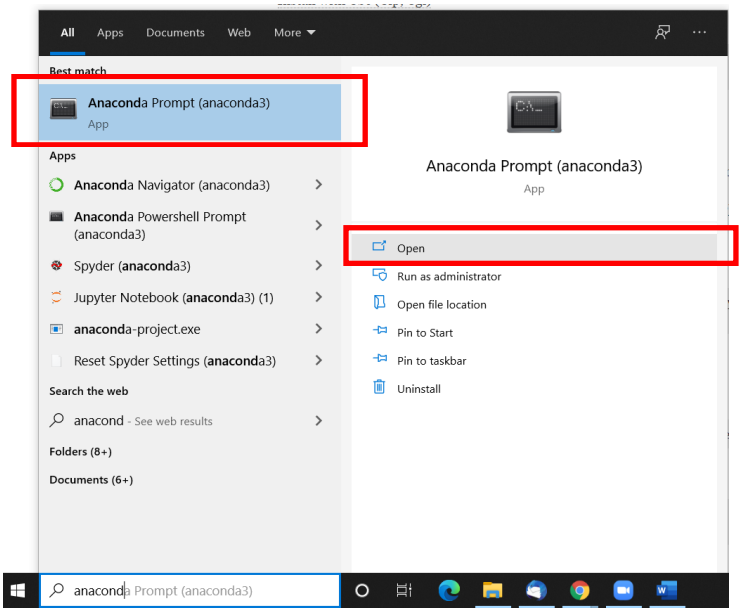
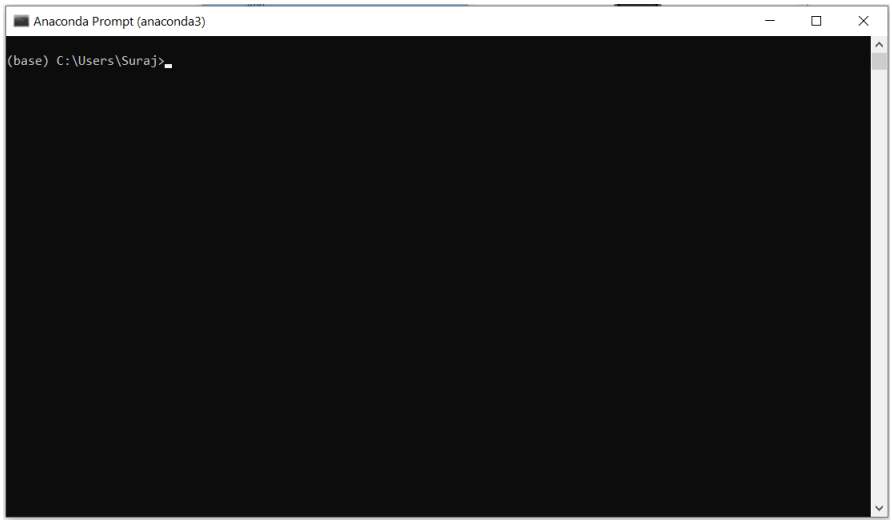
Steps for cvxpy (CVX for Python) installation:

1. Open ‘anaconda prompt’ on your computer by typing in the window’s search. Note that ‘anaconda prompt’ and ‘anaconda powershell prompt’ are different.



It will appear like shown below:



2. Type the command below and enter.

   conda install -c conda-forge cvxpy

3. Wait for the installation to complete. You may need to enter ‘y’ to proceed in between.

After cvxpy installation is complete, you may run the following test code in the Spyder:

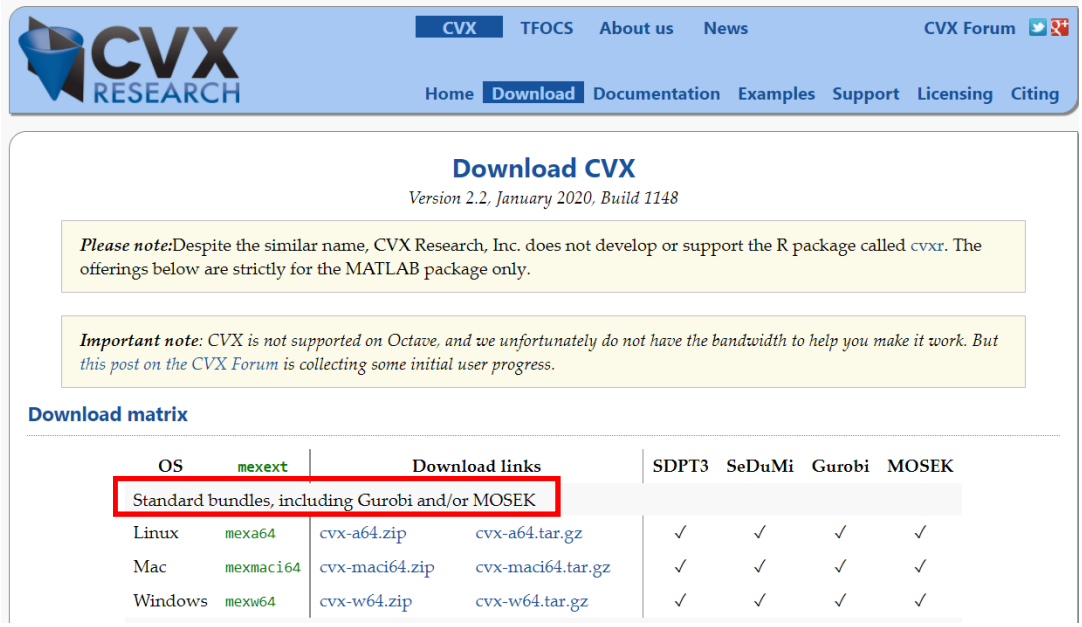
```
# Import packages.
import cvxpy as cp
import numpy as np

# Generate data.
m = 20
n = 15
np.random.seed(1)
A = np.random.randn(m, n)
b = np.random.randn(m)

# Define and solve the CVXPY problem.
x = cp.Variable(n)
cost = cp.sum_squares(A @ x - b)
prob = cp.Problem(cp.Minimize(cost))
prob.solve()

# Print result.
print("\nThe optimal value is", prob.value)
print("The optimal x is")
print(x.value)
print("The norm of the residual is ", cp.norm(A @ x - b, p=2).value)
```

Typical output:

```
The optimal value is 7.005909828287484
The optimal x is
[ 0.17492418 -0.38102551  0.34732251  0.0173098  -0.0845784  -0.08134019
   0.293119    0.27019762  0.17493179 -0.23953449  0.64097935
-0.41633637
   0.12799688  0.1063942  -0.32158411]
The norm of the residual is  2.6468679280023557
```

CVX for Matlab installation:

1. Download CVX from the link: http://cvxr.com/cvx/download/
   Take the standard bundles.



2. Instructions for installation are given at the link: http://cvxr.com/cvx/doc/install.html

After installation is complete, you may run the following test code in the Matlab:

```
M = 25; N = 5;
A = randn(M,N); b = randn(M,1);
cvx_begin
    variable x(N)
    minimize( norm( A * x - b, 2 ) )
    subject to
        norm( x, 1 ) <= 1
cvx_end
```

Typical output:

```
Status: Solved
Optimal value (cvx_optval): +3.54922

>> x

x =

    0.0753
    0.2948
    0.1315
    0.0455
   -0.1619
```