

Run Matlab Command Line Operations from Python

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1 Run Matlab Functions

Go to the [RMD](#), [PDF](#), or [HTML](#) version of this file. Go back to [Python Code Examples](#) Repository ([bookdown site](#)) or the [pyfan](#) Package ([API](#)).

1.1 Generate A template Matlab Script

Generate an example matlab script file with parameter x .

```
# Example Matlab Function
stf_m_contents = """\
a = x + 1
b = 10*x\
"""

# Print
print(stf_m_contents)
# Open new file

## a = x + 1
## b = 10*x

fl_m_contents = open("_m/fs_test.m", 'w')
# Write to File
fl_m_contents.write(stf_m_contents)
# print

## 18

fl_m_contents.close()
```

1.2 Run the Matlab Function from Commandline

- [run matlab function from command line](#)
- [Retrieving the output of subprocess.call](#)
- <https://www.mathworks.com/help/matlab/ref/matlabwindows.html>

First, check where matlab is installed:

```
import subprocess
cmd_popen = subprocess.Popen(["where", "matlab"],
                              stdin=subprocess.PIPE,
                              stdout=subprocess.PIPE,
                              stderr=subprocess.PIPE)
output, err = cmd_popen.communicate()
print(output.decode('utf-8'))
```

G:\ProgramData\MATLAB\R2020b\bin\matlab.exe

Second, run the matlab file, first define the parameter x:

```
import os
# print and set directory
print(os.getcwd())
```

G:\repos\Py4Econ\support\system

```
os.chdir('_m')
print(os.getcwd())
# run matlab script saved prior
# running command line: matlab -batch "fs_test; exit"
```

G:\repos\Py4Econ\support\system_m

```
cmd_popen = subprocess.Popen(["matlab", "-batch", "\"x=1; fs_test; exit\"",
                              stdin=subprocess.PIPE,
                              stdout=subprocess.PIPE,
                              stderr=subprocess.PIPE)
output, err = cmd_popen.communicate()
print(output.decode('utf-8'))
```

```
##
## a =
##
##      2
##
##
## b =
##
##     10
##
```

Third, run the function again, but with $x=3$:

```
os.chdir('_m')
print(os.getcwd())
```

G:\repos\Py4Econ\support\system_m

```
print(subprocess.Popen(["matlab", "-batch", "\"x=5; fs_test; exit\"",
                        stdin=subprocess.PIPE,
                        stdout=subprocess.PIPE,
                        stderr=subprocess.PIPE).communicate()[0].decode('utf-8'))
```

```
##
## a =
##
```

```
##      6
##
##
## b =
##
##      50
##
```