

220079842_Office_env

March 25, 2021

```
[1]: import numpy as np
import gym
import random
```

```
[1]: 
[2]: policy = np.zeros([9, 6])
policy = [[-1, 1, -1, -1, -3, 10],
          [1, 1, -1, 1, 5, -2],
          [1, -1, -1, -1, 5, -2],
          [-1, 1, -1, -1, 5, -2],
          [1, 1, 1, 1, 5, -2],
          [1, -1, -1, -1, 5, -2],
          [-1, 1, -1, -1, 5, -2],
          [1, 1, 1, -1, 5, -2],
          [1, -1, -1, -1, 5, -2]]
```

```
[3]: class OfficeEnv(gym.Env):

    def __init__(self):

        self.action_space = 6
        self.state_space = 9
        self.observation_space = 72
        reward = 0
        state = random.randint(0,self.state_space-1)

    def step(self, action):

        state = random.randint(0,self.state_space-1)
        reward = policy[state][action]

        done = True

        info = {}

        return state, reward, done, info
```

```

def reset(self):
    state = random.randint(0,env.state_space-1)
    reward = 0
    return state

```

```
[4]: env = OfficeEnv()
```

```
[5]: q_table = np.zeros([9, 6])
print(q_table)
```

```

[[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.]]

```

```
[6]: num_of_episodes = 100
max_number_of_steps_per_episode = 10

alpha = 0.1
gamma = 0.99

rate_of_exploration = 1
```

```
[7]: rewards_all_episodes = []
import random
# CanBot's Q-Learning algorithm
for i in range(num_of_episodes):
    state = env.reset()

    done = False
    rewards = list()
    penalties = 0

    for step in range(max_number_of_steps_per_episode):

        if random.uniform(0,1) > rate_of_exploration:
            action = np.argmax(policy[:, state])
        else:
            action = random.randint(0,env.action_space-1)
            #print("Action: ", action)
            #print("State: ", state)
        new_state, reward, done, info = env.step(action)

```

```

    if reward == 10:
        done = True
        q_table[state, action] = (1 - alpha) * q_table[state, action] + \
            alpha * (reward + gamma * np.max(q_table[new_state,:]))

        state = new_state
        rewards.append(reward)

    if done == True:
        #print("Reward for episode: ", i, ":", rewards)
        break
    rewards_all_episodes.append(sum(rewards)/len(rewards))

print("Average rewards foe 100 episodes: ", rewards_all_episodes)
print("Q-table")
print(q_table)

```

Average rewards foe 100 episodes: [5.0, 5.0, -2.0, -3.0, -2.0, -2.0, -1.0, -1.0, 1.0, 5.0, 1.0, -1.0, -1.0, 1.0, 1.0, 5.0, 1.0, -1.0, 1.0, 1.0, -1.0, 1.0, -2.0, 1.0, 1.0, -1.0, -2.0, -1.0, 1.0, -1.0, 1.0, -1.0, 1.0, -1.0, 5.0, 5.0, -2.0, -2.0, -1.0, 1.0, 5.0, -1.0, 5.0, -1.0, -1.0, -1.0, 5.0, -1.0, 1.0, 1.0, 1.0, -1.0, 5.0, -1.0, 1.0, 5.0, 1.0, -1.0, -2.0, 5.0, -1.0, -1.0, 1.0, 1.0, -1.0, -1.0, -1.0, -1.0, 5.0, 5.0, -2.0, -2.0, 5.0, -2.0, -1.0, 5.0, 1.0, 1.0, -2.0, -1.0, 1.0, 5.0, -1.0, 1.0, 5.0, 1.0, -1.0, -1.0, 1.0, 1.0, -1.0, 1.0, 5.0, -1.0, -1.0, 1.0, 1.0, -1.0, 1.0, -2.0]

Q-table

```

[[ 0.00000000e+00  4.06956210e-01  1.00000000e-01  3.65373681e-01
  1.36656137e+00 -1.49034751e-01]
 [-1.39561546e-03  3.77348331e-01  1.14800500e-01  3.63656343e-03
  1.53052755e+00 -5.32313124e-01]
 [ 1.94872880e-01  4.33989639e-01  2.00121242e-01  8.55152495e-02
  9.74881820e-01 -3.25599500e-01]
 [ 6.34386154e-02  0.00000000e+00  1.48154259e-01  2.61659581e-01
  1.38591739e+00 -1.49034751e-01]
 [ 2.77737757e-01  2.67693071e-01  0.00000000e+00 -5.61995000e-02
  5.59261834e-01 -2.81395615e-01]
 [-4.69895500e-02  1.16781514e-01  4.36466146e-02 -4.85312948e-02
  5.98604385e-01 -1.89420296e-01]
 [ 0.00000000e+00 -8.50544403e-02  7.06910613e-02 -9.05545000e-02
  1.41134906e+00  0.00000000e+00]
 [ 5.81936154e-02 -4.90347505e-02  0.00000000e+00  2.74335258e-01
  1.45709614e+00  0.00000000e+00]
 [ 1.50965250e-01  0.00000000e+00  1.06865700e-01 -1.49099500e-01
  0.00000000e+00 -2.66636416e-01]]

```

[8]: !jupyter nbconvert --to PDF "220079842_Office_env.ipynb"

[NbConvertApp] WARNING | pattern u'220079842_Office_env.ipynb' matched no files
This application is used to convert notebook files (*.ipynb) to various other formats.

WARNING: THE COMMANDLINE INTERFACE MAY CHANGE IN FUTURE RELEASES.

Options

Arguments that take values are actually convenience aliases to full Configurables, whose aliases are listed on the help line. For more information on full configurables, see '--help-all'.

--execute

Execute the notebook prior to export.

--allow-errors

Continue notebook execution even if one of the cells throws an error and include the error message in the cell output (the default behaviour is to abort conversion). This flag is only relevant if '--execute' was specified, too.

--no-input

Exclude input cells and output prompts from converted document.

This mode is ideal for generating code-free reports.

--stdout

Write notebook output to stdout instead of files.

--stdin

read a single notebook file from stdin. Write the resulting notebook with default basename 'notebook.*'

--inplace

Run nbconvert in place, overwriting the existing notebook (only relevant when converting to notebook format)

-y

Answer yes to any questions instead of prompting.

--clear-output

Clear output of current file and save in place, overwriting the existing notebook.

--debug

set log level to logging.DEBUG (maximize logging output)

--no-prompt

Exclude input and output prompts from converted document.

--generate-config

generate default config file

--nbformat=<Enum> (NotebookExporter.nbformat_version)

Default: 4

Choices: [1, 2, 3, 4]

The nbformat version to write. Use this to downgrade notebooks.

--output-dir=<Unicode> (FilesWriter.build_directory)

Default: ''

Directory to write output(s) to. Defaults to output to the directory of each

notebook. To recover previous default behaviour (outputting to the current working directory) use `.` as the flag value.

`--writer=<DottedObjectName> (NbConvertApp.writer_class)`
 Default: 'FilesWriter'
 Writer class used to write the results of the conversion

`--log-level=<Enum> (Application.log_level)`
 Default: 30
 Choices: (0, 10, 20, 30, 40, 50, 'DEBUG', 'INFO', 'WARN', 'ERROR', 'CRITICAL')
 Set the log level by value or name.

`--reveal-prefix=<Unicode> (SlidesExporter.reveal_url_prefix)`
 Default: u''
 The URL prefix for reveal.js (version 3.x). This defaults to the reveal CDN, but can be any url pointing to a copy of reveal.js.
 For speaker notes to work, this must be a relative path to a local copy of reveal.js: e.g., "reveal.js".
 If a relative path is given, it must be a subdirectory of the current directory (from which the server is run).
 See the usage documentation
 (<https://nbconvert.readthedocs.io/en/latest/usage.html#reveal-js-html-slideshow>) for more details.

`--to=<Unicode> (NbConvertApp.export_format)`
 Default: 'html'
 The export format to be used, either one of the built-in formats ['asciidoc', 'custom', 'html', 'latex', 'markdown', 'notebook', 'pdf', 'python', 'rst', 'script', 'slides'] or a dotted object name that represents the import path for an `Exporter` class

`--template=<Unicode> (TemplateExporter.template_file)`
 Default: u''
 Name of the template file to use

`--output=<Unicode> (NbConvertApp.output_base)`
 Default: ''
 overwrite base name use for output files. can only be used when converting one notebook at a time.

`--post=<DottedOrNone> (NbConvertApp.postprocessor_class)`
 Default: u''
 PostProcessor class used to write the results of the conversion

`--config=<Unicode> (JupyterApp.config_file)`
 Default: u''
 Full path of a config file.

To see all available configurables, use `--help-all`

Examples

The simplest way to use nbconvert is

```
> jupyter nbconvert mynotebook.ipynb
```

which will convert mynotebook.ipynb to the default format (probably HTML).

You can specify the export format with `--to``.

Options include ['asciidoc', 'custom', 'html', 'latex', 'markdown', 'notebook', 'pdf', 'python', 'rst', 'script', 'slides'].

```
> jupyter nbconvert --to latex mynotebook.ipynb
```

Both HTML and LaTeX support multiple output templates. LaTeX includes 'base', 'article' and 'report'. HTML includes 'basic' and 'full'. You can specify the flavor of the format used.

```
> jupyter nbconvert --to html --template basic mynotebook.ipynb
```

You can also pipe the output to stdout, rather than a file

```
> jupyter nbconvert mynotebook.ipynb --stdout
```

PDF is generated via latex

```
> jupyter nbconvert mynotebook.ipynb --to pdf
```

You can get (and serve) a Reveal.js-powered slideshow

```
> jupyter nbconvert myslides.ipynb --to slides --post serve
```

Multiple notebooks can be given at the command line in a couple of different ways:

```
> jupyter nbconvert notebook*.ipynb
> jupyter nbconvert notebook1.ipynb notebook2.ipynb
```

or you can specify the notebooks list in a config file, containing::

```
c.NbConvertApp.notebooks = ["my_notebook.ipynb"]
```

```
> jupyter nbconvert --config mycfg.py
```

```
[9]: !apt-get update
!apt-get install texlive texlive-xetex texlive-latex-extra pandoc --fix-missing
!pip install py pandoc
```

```
Get:1 https://cloud.r-project.org/bin/linux/ubuntu bionic-cran40/ InRelease
[3,626 B]
```

```

Ign:2 https://developer.download.nvidia.com/compute/cuda/repos/ubuntu1804/x86_64
InRelease
Get:3 http://security.ubuntu.com/ubuntu bionic-security InRelease [88.7 kB]
Hit:4 http://archive.ubuntu.com/ubuntu bionic InRelease
Get:5 http://ppa.launchpad.net/c2d4u.team/c2d4u4.0+/ubuntu bionic InRelease
[15.9 kB]
Ign:6 https://developer.download.nvidia.com/compute/machine-
learning/repos/ubuntu1804/x86_64 InRelease
Hit:7 https://developer.download.nvidia.com/compute/cuda/repos/ubuntu1804/x86_64
Release
Hit:8 https://developer.download.nvidia.com/compute/machine-
learning/repos/ubuntu1804/x86_64 Release
Get:9 http://archive.ubuntu.com/ubuntu bionic-updates InRelease [88.7 kB]
Hit:10 http://ppa.launchpad.net/cran/libgit2/ubuntu bionic InRelease
Get:11 http://archive.ubuntu.com/ubuntu bionic-backports InRelease [74.6 kB]
Hit:12 http://ppa.launchpad.net/deadsnakes/ppa/ubuntu bionic InRelease
Get:13 http://ppa.launchpad.net/graphics-drivers/ppa/ubuntu bionic InRelease
[21.3 kB]
Get:16 http://ppa.launchpad.net/c2d4u.team/c2d4u4.0+/ubuntu bionic/main Sources
[1,748 kB]
Get:17 http://archive.ubuntu.com/ubuntu bionic-updates/restricted amd64 Packages
[378 kB]
Get:18 http://security.ubuntu.com/ubuntu bionic-security/universe amd64 Packages
[1,400 kB]
Get:19 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 Packages
[2,475 kB]
Get:20 http://ppa.launchpad.net/c2d4u.team/c2d4u4.0+/ubuntu bionic/main amd64
Packages [894 kB]
Get:21 http://archive.ubuntu.com/ubuntu bionic-updates/universe amd64 Packages
[2,170 kB]
Get:22 http://security.ubuntu.com/ubuntu bionic-security/restricted amd64
Packages [344 kB]
Get:23 http://security.ubuntu.com/ubuntu bionic-security/main amd64 Packages
[2,031 kB]
Get:24 http://ppa.launchpad.net/graphics-drivers/ppa/ubuntu bionic/main amd64
Packages [49.4 kB]
Fetched 11.8 MB in 4s (3,217 kB/s)
Reading package lists... Done
Reading package lists... Done
Building dependency tree
Reading state information... Done
pandoc is already the newest version (1.19.2.4~dfsg-1build4).
pandoc set to manually installed.
The following additional packages will be installed:
  fonts-droid-fallback fonts-lato fonts-lmodern fonts-noto-mono fonts-texgyre
  javascript-common libcupsfilters1 libcupsimage2 libgs9 libgs9-common
  libijs-0.35 libjbig2dec0 libjs-jquery libkpathsea6 libpotrace0 libptexenc1
  libruby2.5 libsyntaxtex1 libtexlua52 libtexluajit2 libzzip-0-13 lmodern

```

poppler-data preview-latex-style rake ruby ruby-did-you-mean ruby-minitest
ruby-net-telnet ruby-power-assert ruby-test-unit ruby2.5
rubygems-integration tlutils tex-common tex-gyre texlive-base
texlive-binaries texlive-fonts-recommended texlive-latex-base
texlive-latex-recommended texlive-pictures texlive-plain-generic tipa

Suggested packages:

fonts-noto apache2 | lighttpd | httpd poppler-utils ghostscript
fonts-japanese-mincho | fonts-ipafont-mincho fonts-japanese-gothic
| fonts-ipafont-gothic fonts-arphic-ukai fonts-arphic-uming fonts-nanum ri
ruby-dev bundler debhelper gv | postscript-viewer perl-tk xpdf-reader
| pdf-viewer texlive-fonts-recommended-doc texlive-latex-base-doc
python-pygments icc-profiles libfile-which-perl
libspreadsheet-parseexcel-perl texlive-latex-extra-doc
texlive-latex-recommended-doc texlive-pstricks dot2tex prerex ruby-tcltk
| libtcltk-ruby texlive-pictures-doc vprerex

The following NEW packages will be installed:

fonts-droid-fallback fonts-lato fonts-lmodern fonts-noto-mono fonts-texgyre
javascript-common libcupsfilters1 libcupsimage2 libgs9 libgs9-common
libijs-0.35 libjbig2dec0 libjs-jquery libkpathsea6 libpotrace0 libptexenc1
libruby2.5 libsynchronet1 libtexlua52 libtexluajit2 libzip-0-13 lmodern
poppler-data preview-latex-style rake ruby ruby-did-you-mean ruby-minitest
ruby-net-telnet ruby-power-assert ruby-test-unit ruby2.5
rubygems-integration tlutils tex-common tex-gyre texlive texlive-base
texlive-binaries texlive-fonts-recommended texlive-latex-base
texlive-latex-extra texlive-latex-recommended texlive-pictures
texlive-plain-generic texlive-xetex tipa

0 upgraded, 47 newly installed, 0 to remove and 57 not upgraded.

Need to get 146 MB of archives.

After this operation, 460 MB of additional disk space will be used.

Get:1 <http://archive.ubuntu.com/ubuntu bionic/main amd64 fonts-droid-fallback>
all 1:6.0.1r16-1.1 [1,805 kB]

Get:2 <http://archive.ubuntu.com/ubuntu bionic/main amd64 fonts-lato> all 2.0-2
[2,698 kB]

Get:3 <http://archive.ubuntu.com/ubuntu bionic/main amd64 poppler-data> all
0.4.8-2 [1,479 kB]

Get:4 <http://archive.ubuntu.com/ubuntu bionic/main amd64 tex-common> all 6.09
[33.0 kB]

Get:5 <http://archive.ubuntu.com/ubuntu bionic/main amd64 fonts-lmodern> all
2.004.5-3 [4,551 kB]

Get:6 <http://archive.ubuntu.com/ubuntu bionic/main amd64 fonts-noto-mono> all
20171026-2 [75.5 kB]

Get:7 <http://archive.ubuntu.com/ubuntu bionic/universe amd64 fonts-texgyre> all
20160520-1 [8,761 kB]

Get:8 <http://archive.ubuntu.com/ubuntu bionic/main amd64 javascript-common> all
11 [6,066 B]

Get:9 <http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libcupsfilters1>
amd64 1.20.2-0ubuntu3.1 [108 kB]

Get:10 <http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libcupsimage2>

amd64 2.2.7-1ubuntu2.8 [18.6 kB]
Get:11 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 libijs-0.35 amd64
0.35-13 [15.5 kB]
Get:12 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 libjbig2dec0 amd64
0.13-6 [55.9 kB]
Get:13 <http://archive.ubuntu.com/ubuntu> bionic-updates/main amd64 libgs9-common
all 9.26~dfsg+0-0ubuntu0.18.04.14 [5,092 kB]
Get:14 <http://archive.ubuntu.com/ubuntu> bionic-updates/main amd64 libgs9 amd64
9.26~dfsg+0-0ubuntu0.18.04.14 [2,265 kB]
Get:15 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 libjs-jquery all
3.2.1-1 [152 kB]
Get:16 <http://archive.ubuntu.com/ubuntu> bionic-updates/main amd64 libkpathsea6
amd64 2017.20170613.44572-8ubuntu0.1 [54.9 kB]
Get:17 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 libpotrace0 amd64
1.14-2 [17.4 kB]
Get:18 <http://archive.ubuntu.com/ubuntu> bionic-updates/main amd64 libptexenc1
amd64 2017.20170613.44572-8ubuntu0.1 [34.5 kB]
Get:19 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 rubygems-integration
all 1.11 [4,994 B]
Get:20 <http://archive.ubuntu.com/ubuntu> bionic-updates/main amd64 ruby2.5 amd64
2.5.1-1ubuntu1.8 [48.6 kB]
Get:21 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 ruby amd64 1:2.5.1
[5,712 B]
Get:22 <http://archive.ubuntu.com/ubuntu> bionic-updates/main amd64 rake all
12.3.1-1ubuntu0.1 [44.9 kB]
Get:23 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 ruby-did-you-mean all
1.2.0-2 [9,700 B]
Get:24 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 ruby-minitest all
5.10.3-1 [38.6 kB]
Get:25 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 ruby-net-telnet all
0.1.1-2 [12.6 kB]
Get:26 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 ruby-power-assert all
0.3.0-1 [7,952 B]
Get:27 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 ruby-test-unit all
3.2.5-1 [61.1 kB]
Get:28 <http://archive.ubuntu.com/ubuntu> bionic-updates/main amd64 libruby2.5
amd64 2.5.1-1ubuntu1.8 [3,069 kB]
Get:29 <http://archive.ubuntu.com/ubuntu> bionic-updates/main amd64 libsyntax1
amd64 2017.20170613.44572-8ubuntu0.1 [41.4 kB]
Get:30 <http://archive.ubuntu.com/ubuntu> bionic-updates/main amd64 libtexlua52
amd64 2017.20170613.44572-8ubuntu0.1 [91.2 kB]
Get:31 <http://archive.ubuntu.com/ubuntu> bionic-updates/main amd64 libtexluajit2
amd64 2017.20170613.44572-8ubuntu0.1 [230 kB]
Get:32 <http://archive.ubuntu.com/ubuntu> bionic-updates/main amd64 libzip-0-13
amd64 0.13.62-3.1ubuntu0.18.04.1 [26.0 kB]
Get:33 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 lmodern all 2.004.5-3
[9,631 kB]
Get:34 <http://archive.ubuntu.com/ubuntu> bionic/main amd64 preview-latex-style

```

all 11.91-1ubuntu1 [185 kB]
Get:35 http://archive.ubuntu.com/ubuntu bionic/main amd64 tiutils amd64 1.41-2
[56.0 kB]
Get:36 http://archive.ubuntu.com/ubuntu bionic/universe amd64 tex-gyre all
20160520-1 [4,998 kB]
Get:37 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 texlive-
binaries amd64 2017.20170613.44572-8ubuntu0.1 [8,179 kB]
Get:38 http://archive.ubuntu.com/ubuntu bionic/main amd64 texlive-base all
2017.20180305-1 [18.7 MB]
Get:39 http://archive.ubuntu.com/ubuntu bionic/universe amd64 texlive-fonts-
recommended all 2017.20180305-1 [5,262 kB]
Get:40 http://archive.ubuntu.com/ubuntu bionic/main amd64 texlive-latex-base all
2017.20180305-1 [951 kB]
Get:41 http://archive.ubuntu.com/ubuntu bionic/main amd64 texlive-latex-
recommended all 2017.20180305-1 [14.9 MB]
Get:42 http://archive.ubuntu.com/ubuntu bionic/universe amd64 texlive all
2017.20180305-1 [14.4 kB]
Get:43 http://archive.ubuntu.com/ubuntu bionic/universe amd64 texlive-pictures
all 2017.20180305-1 [4,026 kB]
Get:44 http://archive.ubuntu.com/ubuntu bionic/universe amd64 texlive-latex-
extra all 2017.20180305-2 [10.6 MB]
Get:45 http://archive.ubuntu.com/ubuntu bionic/universe amd64 texlive-plain-
generic all 2017.20180305-2 [23.6 MB]
Get:46 http://archive.ubuntu.com/ubuntu bionic/universe amd64 tipa all 2:1.3-20
[2,978 kB]
Get:47 http://archive.ubuntu.com/ubuntu bionic/universe amd64 texlive-xetex all
2017.20180305-1 [10.7 MB]
Fetched 146 MB in 16s (9,209 kB/s)
Extracting templates from packages: 100%
Preconfiguring packages ...
Selecting previously unselected package fonts-droid-fallback.
(Reading database ... 160980 files and directories currently installed.)
Preparing to unpack .../00-fonts-droid-fallback_1%3a6.0.1r16-1.1_all.deb ...
Unpacking fonts-droid-fallback (1:6.0.1r16-1.1) ...
Selecting previously unselected package fonts-lato.
Preparing to unpack .../01-fonts-lato_2.0-2_all.deb ...
Unpacking fonts-lato (2.0-2) ...
Selecting previously unselected package poppler-data.
Preparing to unpack .../02-poppler-data_0.4.8-2_all.deb ...
Unpacking poppler-data (0.4.8-2) ...
Selecting previously unselected package tex-common.
Preparing to unpack .../03-tex-common_6.09_all.deb ...
Unpacking tex-common (6.09) ...
Selecting previously unselected package fonts-lmodern.
Preparing to unpack .../04-fonts-lmodern_2.004.5-3_all.deb ...
Unpacking fonts-lmodern (2.004.5-3) ...
Selecting previously unselected package fonts-noto-mono.
Preparing to unpack .../05-fonts-noto-mono_20171026-2_all.deb ...

```

```

Unpacking fonts-noto-mono (20171026-2) ...
Selecting previously unselected package fonts-texgyre.
Preparing to unpack .../06-fonts-texgyre_20160520-1_all.deb ...
Unpacking fonts-texgyre (20160520-1) ...
Selecting previously unselected package javascript-common.
Preparing to unpack .../07-javascript-common_11_all.deb ...
Unpacking javascript-common (11) ...
Selecting previously unselected package libcupsfilters1:amd64.
Preparing to unpack .../08-libcupsfilters1_1.20.2-0ubuntu3.1_amd64.deb ...
Unpacking libcupsfilters1:amd64 (1.20.2-0ubuntu3.1) ...
Selecting previously unselected package libcupsimage2:amd64.
Preparing to unpack .../09-libcupsimage2_2.2.7-1ubuntu2.8_amd64.deb ...
Unpacking libcupsimage2:amd64 (2.2.7-1ubuntu2.8) ...
Selecting previously unselected package libijs-0.35:amd64.
Preparing to unpack .../10-libijs-0.35_0.35-13_amd64.deb ...
Unpacking libijs-0.35:amd64 (0.35-13) ...
Selecting previously unselected package libjbig2dec0:amd64.
Preparing to unpack .../11-libjbig2dec0_0.13-6_amd64.deb ...
Unpacking libjbig2dec0:amd64 (0.13-6) ...
Selecting previously unselected package libgs9-common.
Preparing to unpack .../12-libgs9-common_9.26~dfsg+0-0ubuntu0.18.04.14_all.deb
...
Unpacking libgs9-common (9.26~dfsg+0-0ubuntu0.18.04.14) ...
Selecting previously unselected package libgs9:amd64.
Preparing to unpack .../13-libgs9_9.26~dfsg+0-0ubuntu0.18.04.14_amd64.deb ...
Unpacking libgs9:amd64 (9.26~dfsg+0-0ubuntu0.18.04.14) ...
Selecting previously unselected package libjs-jquery.
Preparing to unpack .../14-libjs-jquery_3.2.1-1_all.deb ...
Unpacking libjs-jquery (3.2.1-1) ...
Selecting previously unselected package libkpathsea6:amd64.
Preparing to unpack .../15-libkpathsea6_2017.20170613.44572-8ubuntu0.1_amd64.deb
...
Unpacking libkpathsea6:amd64 (2017.20170613.44572-8ubuntu0.1) ...
Selecting previously unselected package libpotrace0.
Preparing to unpack .../16-libpotrace0_1.14-2_amd64.deb ...
Unpacking libpotrace0 (1.14-2) ...
Selecting previously unselected package libptexenc1:amd64.
Preparing to unpack .../17-libptexenc1_2017.20170613.44572-8ubuntu0.1_amd64.deb
...
Unpacking libptexenc1:amd64 (2017.20170613.44572-8ubuntu0.1) ...
Selecting previously unselected package rubygems-integration.
Preparing to unpack .../18-rubygems-integration_1.11_all.deb ...
Unpacking rubygems-integration (1.11) ...
Selecting previously unselected package ruby2.5.
Preparing to unpack .../19-ruby2.5_2.5.1-1ubuntu1.8_amd64.deb ...
Unpacking ruby2.5 (2.5.1-1ubuntu1.8) ...
Selecting previously unselected package ruby.
Preparing to unpack .../20-ruby_1%3a2.5.1_amd64.deb ...

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Unpacking ruby (1:2.5.1) ...
Selecting previously unselected package rake.
Preparing to unpack .../21-rake_12.3.1-1ubuntu0.1_all.deb ...
Unpacking rake (12.3.1-1ubuntu0.1) ...
Selecting previously unselected package ruby-did-you-mean.
Preparing to unpack .../22-ruby-did-you-mean_1.2.0-2_all.deb ...
Unpacking ruby-did-you-mean (1.2.0-2) ...
Selecting previously unselected package ruby-minitest.
Preparing to unpack .../23-ruby-minitest_5.10.3-1_all.deb ...
Unpacking ruby-minitest (5.10.3-1) ...
Selecting previously unselected package ruby-net-telnet.
Preparing to unpack .../24-ruby-net-telnet_0.1.1-2_all.deb ...
Unpacking ruby-net-telnet (0.1.1-2) ...
Selecting previously unselected package ruby-power-assert.
Preparing to unpack .../25-ruby-power-assert_0.3.0-1_all.deb ...
Unpacking ruby-power-assert (0.3.0-1) ...
Selecting previously unselected package ruby-test-unit.
Preparing to unpack .../26-ruby-test-unit_3.2.5-1_all.deb ...
Unpacking ruby-test-unit (3.2.5-1) ...
Selecting previously unselected package libruby2.5:amd64.
Preparing to unpack .../27-libruby2.5_2.5.1-1ubuntu1.8_amd64.deb ...
Unpacking libruby2.5:amd64 (2.5.1-1ubuntu1.8) ...
Selecting previously unselected package libsyntax1:amd64.
Preparing to unpack .../28-libsyntax1_2017.20170613.44572-8ubuntu0.1_amd64.deb
...
Unpacking libsyntax1:amd64 (2017.20170613.44572-8ubuntu0.1) ...
Selecting previously unselected package libtexlua52:amd64.
Preparing to unpack .../29-libtexlua52_2017.20170613.44572-8ubuntu0.1_amd64.deb
...
Unpacking libtexlua52:amd64 (2017.20170613.44572-8ubuntu0.1) ...
Selecting previously unselected package libtexluajit2:amd64.
Preparing to unpack
.../30-libtexluajit2_2017.20170613.44572-8ubuntu0.1_amd64.deb ...
Unpacking libtexluajit2:amd64 (2017.20170613.44572-8ubuntu0.1) ...
Selecting previously unselected package libzip-0-13:amd64.
Preparing to unpack .../31-libzip-0-13_0.13.62-3.1ubuntu0.18.04.1_amd64.deb ...
Unpacking libzip-0-13:amd64 (0.13.62-3.1ubuntu0.18.04.1) ...
Selecting previously unselected package lmodern.
Preparing to unpack .../32-lmodern_2.004.5-3_all.deb ...
Unpacking lmodern (2.004.5-3) ...
Selecting previously unselected package preview-latex-style.
Preparing to unpack .../33-preview-latex-style_11.91-1ubuntu1_all.deb ...
Unpacking preview-latex-style (11.91-1ubuntu1) ...
Selecting previously unselected package t1utils.
Preparing to unpack .../34-t1utils_1.41-2_amd64.deb ...
Unpacking t1utils (1.41-2) ...
Selecting previously unselected package tex-gyre.
Preparing to unpack .../35-tex-gyre_20160520-1_all.deb ...

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Unpacking tex-gyre (20160520-1) ...
Selecting previously unselected package texlive-binaries.
Preparing to unpack .../36-texlive-binaries_2017.20170613.44572-8ubuntu0.1_amd64.deb ...
Unpacking texlive-binaries (2017.20170613.44572-8ubuntu0.1) ...
Selecting previously unselected package texlive-base.
Preparing to unpack .../37-texlive-base_2017.20180305-1_all.deb ...
Unpacking texlive-base (2017.20180305-1) ...
Selecting previously unselected package texlive-fonts-recommended.
Preparing to unpack .../38-texlive-fonts-recommended_2017.20180305-1_all.deb ...
Unpacking texlive-fonts-recommended (2017.20180305-1) ...
Selecting previously unselected package texlive-latex-base.
Preparing to unpack .../39-texlive-latex-base_2017.20180305-1_all.deb ...
Unpacking texlive-latex-base (2017.20180305-1) ...
Selecting previously unselected package texlive-latex-recommended.
Preparing to unpack .../40-texlive-latex-recommended_2017.20180305-1_all.deb ...
Unpacking texlive-latex-recommended (2017.20180305-1) ...
Selecting previously unselected package texlive.
Preparing to unpack .../41-texlive_2017.20180305-1_all.deb ...
Unpacking texlive (2017.20180305-1) ...
Selecting previously unselected package texlive-pictures.
Preparing to unpack .../42-texlive-pictures_2017.20180305-1_all.deb ...
Unpacking texlive-pictures (2017.20180305-1) ...
Selecting previously unselected package texlive-latex-extra.
Preparing to unpack .../43-texlive-latex-extra_2017.20180305-2_all.deb ...
Unpacking texlive-latex-extra (2017.20180305-2) ...
Selecting previously unselected package texlive-plain-generic.
Preparing to unpack .../44-texlive-plain-generic_2017.20180305-2_all.deb ...
Unpacking texlive-plain-generic (2017.20180305-2) ...
Selecting previously unselected package tipa.
Preparing to unpack .../45-tipa_2%3a1.3-20_all.deb ...
Unpacking tipa (2:1.3-20) ...
Selecting previously unselected package texlive-xetex.
Preparing to unpack .../46-texlive-xetex_2017.20180305-1_all.deb ...
Unpacking texlive-xetex (2017.20180305-1) ...
Setting up libgs9-common (9.26~dfsg+0-0ubuntu0.18.04.14) ...
Setting up libkpathsea6:amd64 (2017.20170613.44572-8ubuntu0.1) ...
Setting up libjs-jquery (3.2.1-1) ...
Setting up libtexlua52:amd64 (2017.20170613.44572-8ubuntu0.1) ...
Setting up fonts-droid-fallback (1:6.0.1r16-1.1) ...
Setting up libsynctex1:amd64 (2017.20170613.44572-8ubuntu0.1) ...
Setting up libptexenc1:amd64 (2017.20170613.44572-8ubuntu0.1) ...
Setting up tex-common (6.09) ...
update-language: texlive-base not installed and configured, doing nothing!
Setting up poppler-data (0.4.8-2) ...
Setting up tex-gyre (20160520-1) ...
Setting up preview-latex-style (11.91-1ubuntu1) ...
Setting up fonts-texgyre (20160520-1) ...

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Setting up fonts-noto-mono (20171026-2) ...
Setting up fonts-lato (2.0-2) ...
Setting up libcupsfilters1:amd64 (1.20.2-0ubuntu3.1) ...
Setting up libcupsimage2:amd64 (2.2.7-1ubuntu2.8) ...
Setting up libjbig2dec0:amd64 (0.13-6) ...
Setting up ruby-did-you-mean (1.2.0-2) ...
Setting up t1utils (1.41-2) ...
Setting up ruby-net-telnet (0.1.1-2) ...
Setting up libijs-0.35:amd64 (0.35-13) ...
Setting up rubygems-integration (1.11) ...
Setting up libpotrace0 (1.14-2) ...
Setting up javascript-common (11) ...
Setting up ruby-minitest (5.10.3-1) ...
Setting up libzip-0-13:amd64 (0.13.62-3.1ubuntu0.18.04.1) ...
Setting up libgs9:amd64 (9.26~dfsg+0-0ubuntu0.18.04.14) ...
Setting up libtexluaajit2:amd64 (2017.20170613.44572-8ubuntu0.1) ...
Setting up fonts-lmodern (2.004.5-3) ...
Setting up ruby-power-assert (0.3.0-1) ...
Setting up texlive-binaries (2017.20170613.44572-8ubuntu0.1) ...
update-alternatives: using /usr/bin/xdvi-xaw to provide /usr/bin/xdvi.bin
(xdvi.bin) in auto mode
update-alternatives: using /usr/bin/bibtex.original to provide /usr/bin/bibtex
(bibtex) in auto mode
Setting up texlive-base (2017.20180305-1) ...
mktexlsr: Updating /var/lib/texmf/ls-R-TEXLIVEDIST...
mktexlsr: Updating /var/lib/texmf/ls-R-TEXMFMAIN...
mktexlsr: Updating /var/lib/texmf/ls-R...
mktexlsr: Done.
tl-paper: setting paper size for dvips to a4: /var/lib/texmf/dvips/config
/config-paper.ps
tl-paper: setting paper size for dvipdfmx to a4: /var/lib/texmf/dvipdfmx
/dvipdfmx-paper.cfg
tl-paper: setting paper size for xdvi to a4: /var/lib/texmf/xdvi/XDvi-paper
tl-paper: setting paper size for pdftex to a4:
/var/lib/texmf/tex/generic/config/pdftexconfig.tex
Setting up texlive-fonts-recommended (2017.20180305-1) ...
Setting up texlive-plain-generic (2017.20180305-2) ...
Setting up texlive-latex-base (2017.20180305-1) ...
Setting up lmodern (2.004.5-3) ...
Setting up texlive-latex-recommended (2017.20180305-1) ...
Setting up texlive-pictures (2017.20180305-1) ...
Setting up tipa (2:1.3-20) ...
Regenerating '/var/lib/texmf/fmtutil.cnf-DEBIAN'... done.
Regenerating '/var/lib/texmf/fmtutil.cnf-TEXLIVEDIST'... done.
update-fmtutil has updated the following file(s):
    /var/lib/texmf/fmtutil.cnf-DEBIAN
    /var/lib/texmf/fmtutil.cnf-TEXLIVEDIST
If you want to activate the changes in the above file(s),

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you should run fmtutil-sys or fmtutil.
Setting up texlive (2017.20180305-1) ...
Setting up texlive-latex-extra (2017.20180305-2) ...
Setting up texlive-xetex (2017.20180305-1) ...
Setting up ruby2.5 (2.5.1-1ubuntu1.8) ...
Setting up ruby (1:2.5.1) ...
Setting up ruby-test-unit (3.2.5-1) ...
Setting up rake (12.3.1-1ubuntu0.1) ...
Setting up libruby2.5:amd64 (2.5.1-1ubuntu1.8) ...
Processing triggers for mime-support (3.60ubuntu1) ...
Processing triggers for libc-bin (2.27-3ubuntu1.2) ...
/sbin/ldconfig.real: /usr/local/lib/python3.7/dist-
packages/ideep4py/lib/libmkldnn.so.0 is not a symbolic link

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Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for fontconfig (2.12.6-0ubuntu2) ...
Processing triggers for tex-common (6.09) ...
Running updmap-sys. This may take some time... done.
Running mktexlsr /var/lib/texmf ... done.
Building format(s) --all.

```

This may take some time... done.

Collecting py pandoc

Downloading <https://files.pythonhosted.org/packages/d6/b7/5050dc1769c8a93d3ec7c4bd55be161991c94b8b235f88bf7c764449e708/py pandoc-1.5.tar.gz>

Requirement already satisfied: setuptools in /usr/local/lib/python3.7/dist-packages (from py pandoc) (54.1.2)

Requirement already satisfied: pip>=8.1.0 in /usr/local/lib/python3.7/dist-packages (from py pandoc) (19.3.1)

Requirement already satisfied: wheel>=0.25.0 in /usr/local/lib/python3.7/dist-packages (from py pandoc) (0.36.2)

Building wheels for collected packages: py pandoc

Building wheel for py pandoc (setup.py) ... done

Created wheel for py pandoc: filename=py pandoc-1.5-cp37-none-any.whl size=17036 sha256=072c14e8f6e00954343a0f6931f260c61ec7d3f2ee1594c4256842bb273ac576

Stored in directory: /root/.cache/pip/wheels/bb/7d/d6/2f9af55e800d37e42e546106bcbd36a86e24e725e303d17e04

Successfully built py pandoc

Installing collected packages: py pandoc

Successfully installed py pandoc-1.5

```
[10]: !cp drive/MyDrive/Colab_Notebooks/220079842_Office_env.ipynb ./
```

```

cp: cannot stat 'drive/MyDrive/Colab_Notebooks/220079842_Office_env.ipynb': No
such file or directory

```

```
[ ]:
```