# Using R Together with Jupyter Notebook

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## Set up Jupyter Notebook on local PC

1. Install python and jupyter notebook using anaconda from website <https://www.continuum.io/downloads>
2. Update pip by typing the command line 'python -m pip install -U pip' in Command Prompt
3. Install Rkernel for jupyter in two ways

* Type command line 'conda install -c r ipython-notebook r-irkernel' and

'ipython notebook' in Command Prompt

* Run R script below

install.packages(c('repr', 'IRdisplay', 'crayon', 'pbdZMQ', 'devtools')) devtools::install\_github('IRkernel/IRkernel')

# in R 3.3

IRkernel::installspec(name = 'ir33', displayname = 'R 3.3')

# in R 3.2

IRkernel::installspec(name = 'ir32', displayname = 'R 3.2')

## Transform Rmd to md/ipynb - Notedown

1. Install notedown by typing the command line 'pip install <https://github.com/aaren/notedown/tarball/master>'
2. Make sure R package ‘knitr’ has been installed
3. Create your Rmarkdown document
4. Convert Rmarkdown file

* Rmd to md : typing the command line 'notedown input.Rmd --to markdown > output.md'
* Rmd to ipynb : typing the command line 'notedown input.Rmd > output.ipynb'

## Compare Rmd and ipynb

1. Rmd: you can only execute R code in all chunks by using single version of R at one time; R studio restart is required if changing the version of R.
2. Ipynb: you can switch R kernels without restarting Jupyter Notebook; you can also execute cells by using different R kernels and save the outputs timely