

```

<!DOCTYPE HTML>
<html>

<head>
  <meta charset="utf-8">

  <title>Jupyter Notebook</title>
  <link id="favicon" rel="shortcut icon" type="image/x-icon"
href="/static/base/images/favicon-notebook.ico?v=9e5fb7f8501d94094806320e718be6b3">
  <meta http-equiv="X-UA-Compatible" content="IE=edge" />
  <link rel="stylesheet"
href="/static/components/jquery-ui/themes/smoothness/jquery-ui.min.css?v=3c2a865c83
2a1322285c55c6ed99abb2" type="text/css" />
  <link rel="stylesheet"
href="/static/components/jquery-typeahead/dist/jquery.typeahead.min.css?v=7afb461de
36accb1aa133a1710f5bc56" type="text/css" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0">


<script type="text/javascript"
src="/static/components/MathJax/MathJax.js?config=TeX-AMS-MML_HTMLorMML-full,Safe&d
elayStartupUntil=configured" charset="utf-8"></script>

<script type="text/javascript">
// MathJax disabled, set as null to distinguish from *missing* MathJax,
// where it will be undefined, and should prompt a dialog later.
window.mathjax_url = "/static/components/MathJax/MathJax.js";
</script>

<link rel="stylesheet"
href="/static/components/bootstrap-tour/build/css/bootstrap-tour.min.css?v=d0b3c2fc
e6056a2ddd5a4513762a94c4" type="text/css" />
<link rel="stylesheet"
href="/static/components/codemirror/lib/codemirror.css?v=288352df06a67ee35003b0981d
a414ac">

  <link rel="stylesheet"
href="/static/style/style.min.css?v=e91a43337d7c294cc9fab2938fa723b3"
type="text/css"/>

<link rel="stylesheet"
href="/static/notebook/css/override.css?v=e6f18013b8771987812e992b38ec3318"
type="text/css" />
<link rel="stylesheet" href="" id='kernel-css'
type="text/css" />

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    <link rel="stylesheet" href="/custom/custom.css" type="text/css" />
    <script
src="/static/components/es6-promise/promise.min.js?v=f004a16cb856e0ff11781d01ec5ca8
fe" type="text/javascript" charset="utf-8"></script>
    <script
src="/static/components/react/react.production.min.js?v=34f96ffc962a7deecc83037ccb5
82b58" type="text/javascript"></script>
    <script src="/static/components/react/react-dom.production.min.js"
type="text/javascript"></script>
    <script
src="/static/components/create-react-class/index.js?v=94feb9971ce6d26211729abc43f96
cd2" type="text/javascript"></script>
    <script
src="/static/components/requirejs/require.js?v=951f856e81496aaeec2e71a1c2c0d51f"
type="text/javascript" charset="utf-8"></script>
    <script>
        require.config({

            urlArgs: "v=20200428180938",

            baseUrl: '/static/',
            paths: {
                'auth/js/main': 'auth/js/main.min',
                custom : '/custom',
                nbextensions : '/nbextensions',
                kernelspecs : '/kernelspecs',
                underscore : 'components/underscore/underscore-min',
                backbone : 'components/backbone/backbone-min',
                jed: 'components/jed/jed',
                jquery: 'components/jquery/jquery.min',
                json: 'components/requirejs-plugins/src/json',
                text: 'components/requirejs-text/text',
                bootstrap: 'components/bootstrap/dist/js/bootstrap.min',
                bootstraptour: 'components/bootstrap-tour/build/js/bootstrap-tour.min',
                'jquery-ui': 'components/jquery-ui/jquery-ui.min',
                moment: 'components/moment/min/moment-with-locales',
                codemirror: 'components/codemirror',
                termjs: 'components/xterm.js/xterm',
                typeahead: 'components/jquery-typeahead/dist/jquery.typeahead.min',
            },
            map: { // for backward compatibility
                "*": {
                    "jqueryui": "jquery-ui",
                }
            },
            shim: {
                typeahead: {
                    deps: ["jquery"],
                    exports: "typeahead"
                }
            }
        })
    </script>

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```

    },
    underscore: {
        exports: '_'
    },
    backbone: {
        deps: ["underscore", "jquery"],
        exports: "Backbone"
    },
    bootstrap: {
        deps: ["jquery"],
        exports: "bootstrap"
    },
    bootstraptour: {
        deps: ["bootstrap"],
        exports: "Tour"
    },
    "jquery-ui": {
        deps: ["jquery"],
        exports: "$"
    }
},
waitSeconds: 30,
});

require.config({
    map: {
        '*': {
            'contents': 'services/contents',
        }
    }
});

// error-catching custom.js shim.
define("custom", function (require, exports, module) {
    try {
        var custom = require('custom/custom');
        console.debug('loaded custom.js');
        return custom;
    } catch (e) {
        console.error("error loading custom.js", e);
        return {};
    }
})

document.nbjs_translations = {"domain": "nbjs", "locale_data": {"nbjs": {"":
{"domain": "nbjs"}}}};
document.documentElement.lang = navigator.language.toLowerCase();
</script>

```

</head>

<body class="notebook\_app "

data-jupyter-api-token="69eb9d7cafaa8e8de83fef6a73adae93caf5a98a57dc17fc"

data-base-url="/"

data-ws-url=""

data-notebook-name="Hello%20World.ipynb"

data-notebook-path="Hello%20World.ipynb"

dir="ltr">

<noscript>

<div id='noscript'>

Jupyter Notebook requires JavaScript.<br>

Please enable it to proceed.

</div>

</noscript>

<div id="header" role="navigation" aria-label="Top Menu">

<div id="header-container" class="container">

<div id="ipython\_notebook" class="nav navbar-brand"><a

href="/tree?token=69eb9d7cafaa8e8de83fef6a73adae93caf5a98a57dc17fc"

title='dashboard'>

<img src='/static/base/images/logo.png?v=641991992878ee24c6f3826e81054a0f'

alt='Jupyter Notebook'/>

</a></div>

<span id="save\_widget" class="save\_widget">

<span id="notebook\_name" class="filename"></span>

<span class="checkpoint\_status"></span>

<span class="autosave\_status"></span>

</span>

<span id="kernel\_logo\_widget">


```

```
</span>
```

```
<span id="login_widget">
```

```
<button id="logout" class="btn btn-sm navbar-btn">Logout</button>
```

```
</span>
```

```
</div>
```

```
<div class="header-bar"></div>
```

```
<div id="menubar-container" class="container">
```

```
<div id="menubar">
```

```
<div id="menus" class="navbar navbar-default" role="navigation">
```

```
<div class="container-fluid">
```

```
<button type="button" class="btn btn-default navbar-btn navbar-toggle"
data-toggle="collapse" data-target=".navbar-collapse">
```

```
<i class="fa fa-bars"></i>
```

```
<span class="navbar-text">Menu</span>
```

```
</button>
```

```
<p id="kernel_indicator" class="navbar-text indicator_area">
```

```
<span class="kernel_indicator_name">Kernel</span>
```

```
<i id="kernel_indicator_icon"></i>
```

```
</p>
```

```
<i id="readonly-indicator" class="navbar-text" title='This notebook is
read-only'>
```

```
<span class="fa-stack">
```

```
<i class="fa fa-save fa-stack-1x"></i>
```

```
<i class="fa fa-ban fa-stack-2x text-danger"></i>
```

```
</span>
```

```
</i>
```

```
<i id="modal_indicator" class="navbar-text"></i>
```

```
<span id="notification_area"></span>
```

```
<div class="navbar-collapse collapse">
```

```
<ul class="nav navbar-nav">
```

```
<li class="dropdown"><a href="#" id="filelink" aria-haspopup="true"
```

```

aria-controls="file_menu class="dropdown-toggle" data-toggle="dropdown">File</a>
    <ul id="file_menu" class="dropdown-menu" role="menu"
aria-labelledby="filelink">
        <li id="new_notebook" class="dropdown-submenu" role="none">
            <a href="#" role="menuitem">New Notebook<span
class="sr-only">Toggle Dropdown</span></a>
            <ul class="dropdown-menu"
id="menu-new-notebook-submenu"></ul>
        </li>
        <li id="open_notebook" role="none"
            title="Opens a new window with the Dashboard view">
            <a href="#" role="menuitem">Open...</a></li>
        <!-- <hr/> -->
        <li class="divider" role="none"></li>
        <li id="copy_notebook" role="none"
            title="Open a copy of this notebook's contents and
start a new kernel">
            <a href="#" role="menuitem">Make a Copy...</a></li>
        <li id="save_notebook_as" role="none"
            title="Save a copy of the notebook's contents and start
a new kernel">
            <a href="#" role="menuitem">Save as...</a></li>
        <li id="rename_notebook" role="none"><a href="#"
role="menuitem">Rename...</a></li>
        <li id="save_checkpoint" role="none"><a href="#"
role="menuitem">Save and Checkpoint</a></li>
        <!-- <hr/> -->
        <li class="divider" role="none"></li>
        <li id="restore_checkpoint" class="dropdown-submenu"
role="none"><a href="#" role="menuitem">Revert to Checkpoint<span
class="sr-only">Toggle Dropdown</span></a>
            <ul class="dropdown-menu">
                <li><a href="#"></a></li>
                <li><a href="#"></a></li>
                <li><a href="#"></a></li>
                <li><a href="#"></a></li>
                <li><a href="#"></a></li>
            </ul>
        </li>
        <li class="divider" role="none"></li>
        <li id="print_preview" role="none"><a href="#"
role="menuitem">Print Preview</a></li>
        <li class="dropdown-submenu" role="none"><a href="#"
role="menuitem">Download as<span class="sr-only">Toggle Dropdown</span></a>
            <ul id="download_menu" class="dropdown-menu">
                <li id="download_asciidoc">
                    <a href="#">asciidoc (.asciidoc)</a>
                </li>

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        <li id="download_html">
            <a href="#">html (.html)</a>
        </li>

        <li id="download_latex">
            <a href="#">latex (.tex)</a>
        </li>

        <li id="download_markdown">
            <a href="#">markdown (.md)</a>
        </li>

        <li id="download_notebook">
            <a href="#">notebook (.ipynb)</a>
        </li>

        <li id="download_pdf">
            <a href="#">pdf (.pdf)</a>
        </li>

        <li id="download_rst">
            <a href="#">rst (.rst)</a>
        </li>

        <li id="download_script">
            <a href="#">script (.txt)</a>
        </li>

        <li id="download_slides">
            <a href="#">slides (.slides.html)</a>
        </li>

    </ul>
</li>
<li class="dropdown-submenu hidden" role="none"><a href="#"
role="menuitem">Deploy as</a>
    <ul id="deploy_menu" class="dropdown-menu"></ul>
</li>
<li class="divider" role="none"></li>
<li id="trust_notebook" role="none"
    title="Trust the output of this notebook">
    <a href="#" role="menuitem">Trust Notebook</a></li>
<li class="divider" role="none"></li>
<li id="close_and_halt" role="none"
    title="Shutdown this notebook's kernel, and close this
window">
    <a href="#" role="menuitem">Close and Halt</a></li>
</ul>
</li>

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        <li class="dropdown"><a href="#" class="dropdown-toggle"
id="editlink" data-toggle="dropdown" aria-haspopup="true"
aria-controls="edit_menu">Edit</a>
        <ul id="edit_menu" class="dropdown-menu" role="menu"
aria-labelledby="editlink">
            <li id="cut_cell" role="none"><a href="#"
role="menuitem">Cut Cells</a></li>
            <li id="copy_cell" role="none"><a href="#"
role="menuitem">Copy Cells</a></li>
            <li id="paste_cell_above" class="disabled" role="none"><a
href="#" role="menuitem" aria-disabled="true">Paste Cells Above</a></li>
            <li id="paste_cell_below" class="disabled" role="none"><a
href="#" role="menuitem" aria-disabled="true">Paste Cells Below</a></li>
            <li id="paste_cell_replace" class="disabled" role="none"><a
href="#" role="menuitem" aria-disabled="true">Paste Cells & Replace</a></li>
            <li id="delete_cell" role="none"><a href="#"
role="menuitem">Delete Cells</a></li>
            <li id="undelete_cell" class="disabled" role="none"><a
href="#" role="menuitem" aria-disabled="true">Undo Delete Cells</a></li>
            <li class="divider" role="none"></li>
            <li id="split_cell" role="none"><a href="#"
role="menuitem">Split Cell</a></li>
            <li id="merge_cell_above" role="none"><a href="#"
role="menuitem">Merge Cell Above</a></li>
            <li id="merge_cell_below" role="none"><a href="#"
role="menuitem">Merge Cell Below</a></li>
            <li class="divider" role="none"></li>
            <li id="move_cell_up" role="none"><a href="#"
role="menuitem">Move Cell Up</a></li>
            <li id="move_cell_down" role="none"><a href="#"
role="menuitem">Move Cell Down</a></li>
            <li class="divider" role="none"></li>
            <li id="edit_nb_metadata" role="none"><a href="#"
role="menuitem">Edit Notebook Metadata</a></li>
            <li class="divider" role="none"></li>
            <li id="find_and_replace" role="none"><a href="#"
role="menuitem"> Find and Replace </a></li>
            <li class="divider" role="none"></li>
            <li id="cut_cell_attachments" role="none"><a href="#"
role="menuitem">Cut Cell Attachments</a></li>
            <li id="copy_cell_attachments" role="none"><a href="#"
role="menuitem">Copy Cell Attachments</a></li>
            <li id="paste_cell_attachments" class="disabled"
role="none"><a href="#" role="menuitem" aria-disabled="true">Paste Cell
Attachments</a></li>
            <li class="divider" role="none"></li>
            <li id="insert_image" class="disabled" role="none"><a
href="#" role="menuitem" aria-disabled="true"> Insert Image </a></li>
        </ul>
    </li>

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        <li class="dropdown"><a href="#" class="dropdown-toggle"
id="viewlink" data-toggle="dropdown" aria-haspopup="true"
aria-controls="view_menu">View</a>
        <ul id="view_menu" class="dropdown-menu" role="menu"
aria-labelledby="viewlink">
            <li id="toggle_header" role="none"
                title="Show/Hide the logo and notebook title (above
menu bar)">
                <a href="#" role="menuitem">Toggle Header</a>
            </li>
            <li id="toggle_toolbar" role="none"
                title="Show/Hide the action icons (below menu bar)">
                <a href="#" role="menuitem">Toggle Toolbar</a>
            </li>
            <li id="toggle_line_numbers" role="none"
                title="Show/Hide line numbers in cells">
                <a href="#" role="menuitem">Toggle Line Numbers</a>
            </li>
            <li id="menu-cell-toolbar" class="dropdown-submenu"
role="none">
                <a href="#" role="menuitem">Cell Toolbar</a>
                <ul class="dropdown-menu"
id="menu-cell-toolbar-submenu"></ul>
            </li>
        </ul>
    </li>
    <li class="dropdown"><a href="#" class="dropdown-toggle"
id="insertlink" data-toggle="dropdown" aria-haspopup="true"
aria-controls="insert_menu">Insert</a>
    <ul id="insert_menu" class="dropdown-menu" role="menu"
aria-labelledby="insertlink">
        <li id="insert_cell_above" role="none"
            title="Insert an empty Code cell above the currently
active cell">
            <a href="#" role="menuitem">Insert Cell Above</a></li>
        <li id="insert_cell_below" role="none"
            title="Insert an empty Code cell below the currently
active cell">
            <a href="#" role="menuitem">Insert Cell Below</a></li>
        </ul>
    </li>
    <li class="dropdown"><a href="#" class="dropdown-toggle"
data-toggle="dropdown">Cell</a>
    <ul id="cell_menu" class="dropdown-menu">
        <li id="run_cell" title="Run this cell, and move cursor to
the next one">
            <a href="#">Run Cells</a></li>
        <li id="run_cell_select_below" title="Run this cell, select
below">
            <a href="#">Run Cells and Select Below</a></li>
    </ul>

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        <li id="run_cell_insert_below" title="Run this cell, insert
below">
            <a href="#">Run Cells and Insert Below</a></li>
        <li id="run_all_cells" title="Run all cells in the
notebook">
            <a href="#">Run All</a></li>
        <li id="run_all_cells_above" title="Run all cells above
(but not including) this cell">
            <a href="#">Run All Above</a></li>
        <li id="run_all_cells_below" title="Run this cell and all
cells below it">
            <a href="#">Run All Below</a></li>
        <li class="divider"></li>
        <li id="change_cell_type" class="dropdown-submenu"
title="All cells in the notebook have a cell type. By
default, new cells are created as 'Code' cells">
            <a href="#">Cell Type</a>
            <ul class="dropdown-menu">
                <li id="to_code"
title="Contents will be sent to the kernel for
execution, and output will display in the footer of cell">
                    <a href="#">Code</a></li>
                <li id="to_markdown"
title="Contents will be rendered as HTML and
serve as explanatory text">
                    <a href="#">Markdown</a></li>
                <li id="to_raw"
title="Contents will pass through nbconvert
unmodified">
                    <a href="#">Raw NBConvert</a></li>
            </ul>
        </li>
        <li class="divider"></li>
        <li id="current_outputs" class="dropdown-submenu"><a
href="#">Current Outputs</a>
            <ul class="dropdown-menu">
                <li id="toggle_current_output"
title="Hide/Show the output of the current
cell">
                    <a href="#">Toggle</a>
                </li>
                <li id="toggle_current_output_scroll"
title="Scroll the output of the current cell">
                    <a href="#">Toggle Scrolling</a>
                </li>
                <li id="clear_current_output"
title="Clear the output of the current cell">
                    <a href="#">Clear</a>
                </li>
            </ul>

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        </li>
        <li id="all_outputs" class="dropdown-submenu"><a
href="#">All Output</a>
        <ul class="dropdown-menu">
            <li id="toggle_all_output"
                title="Hide/Show the output of all cells">
                <a href="#">Toggle</a>
            </li>
            <li id="toggle_all_output_scroll"
                title="Scroll the output of all cells">
                <a href="#">Toggle Scrolling</a>
            </li>
            <li id="clear_all_output"
                title="Clear the output of all cells">
                <a href="#">Clear</a>
            </li>
        </ul>
    </li>
</ul>
</li>
<li class="dropdown"><a href="#" class="dropdown-toggle"
data-toggle="dropdown">Kernel</a>
    <ul id="kernel_menu" class="dropdown-menu">
        <li id="int_kernel"
            title="Send Keyboard Interrupt (CTRL-C) to the Kernel">
            <a href="#">Interrupt</a>
        </li>
        <li id="restart_kernel"
            title="Restart the Kernel">
            <a href="#">Restart</a>
        </li>
        <li id="restart_clear_output"
            title="Restart the Kernel and clear all output">
            <a href="#">Restart & Clear Output</a>
        </li>
        <li id="restart_run_all"
            title="Restart the Kernel and re-run the notebook">
            <a href="#">Restart & Run All</a>
        </li>
        <li id="reconnect_kernel"
            title="Reconnect to the Kernel">
            <a href="#">Reconnect</a>
        </li>
        <li id="shutdown_kernel"
            title="Shutdown the Kernel">
            <a href="#">Shutdown</a>
        </li>
        <li class="divider"></li>
        <li id="menu-change-kernel" class="dropdown-submenu">
            <a href="#">Change kernel</a>

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        <ul class="dropdown-menu"
id="menu-change-kernel-submenu"></ul>
        </li>
    </ul>
</li>
    <li class="dropdown"><a href="#" class="dropdown-toggle"
data-toggle="dropdown">Help</a>
        <ul id="help_menu" class="dropdown-menu">

            <li id="notebook_tour" title="A quick tour of the notebook
user interface"><a href="#">User Interface Tour</a></li>
            <li id="keyboard_shortcuts" title="Opens a tooltip with all
keyboard shortcuts"><a href="#">Keyboard Shortcuts</a></li>
            <li id="edit_keyboard_shortcuts" title="Opens a dialog
allowing you to edit Keyboard shortcuts"><a href="#">Edit Keyboard
Shortcuts</a></li>

            <li class="divider"></li>

            <li><a rel="noreferrer"
href="http://nbviewer.jupyter.org/github/ipython/ipython/blob/3.x/examples/Notebook
/Index.ipynb" target="_blank" title="Opens in a new window">

                <i class="fa fa-external-link menu-icon
pull-right"></i>

                Notebook Help
            </a></li>

            <li><a rel="noreferrer"
href="https://help.github.com/articles/markdown-basics/" target="_blank"
title="Opens in a new window">

                <i class="fa fa-external-link menu-icon
pull-right"></i>

                Markdown
            </a></li>

            <li class="divider"></li>
            <li title="About Jupyter Notebook"><a id="notebook_about"
href="#">About</a></li>

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        </ul>
    </li>
</ul>
</div>
</div>
</div>
</div>

<div id="maintoolbar" class="navbar">
    <div class="toolbar-inner navbar-inner navbar-nobg">
        <div id="maintoolbar-container" class="container"></div>
    </div>
</div>
</div>

<div class="lower-header-bar"></div>

</div>

<div id="site">

<div id="ipython-main-app">
    <div id="notebook_panel">
        <div id="notebook"></div>
        <div id='tooltip' class='ipython_tooltip' style='display:none'></div>
    </div>
</div>

</div>

<div id="pager">
    <div id="pager-contents">
        <div id="pager-container" class="container"></div>
    </div>
    <div id='pager-button-area'></div>
</div>

<script type="text/javascript">
    sys_info = {"notebook_version": "6.0.0", "notebook_path":
"C:\\Users\\anura\\Anaconda3\\lib\\site-packages\\notebook", "commit_source": "",

```

```
"commit_hash": "", "sys_version": "3.7.3 (default, Apr 24 2019, 15:29:51) [MSC
v.1915 64 bit (AMD64)]", "sys_executable":
"C:\\Users\\anura\\Anaconda3\\python.exe", "sys_platform": "win32", "platform":
"Windows-10-10.0.17763-SP0", "os_name": "nt", "default_encoding": "utf-8"};
</script>
```

```
<script
src="/static/components/text-encoding/lib/encoding.js?v=d5bb0fc9ffeff7d98a69bb83daa
51052" charset="utf-8"></script>
```

```
<script src="/static/notebook/js/main.min.js?v=eef572336006937e9a017afbdebc65fe"
type="text/javascript" charset="utf-8"></script>
```

```
<script type='text/javascript'>
function _remove_token_from_url() {
  if (window.location.search.length <= 1) {
    return;
  }
  var search_parameters = window.location.search.slice(1).split('&');
  for (var i = 0; i < search_parameters.length; i++) {
    if (search_parameters[i].split('=')[0] === 'token') {
      // remote token from search parameters
      search_parameters.splice(i, 1);
      var new_search = '';
      if (search_parameters.length) {
        new_search = '?' + search_parameters.join('&');
      }
      var new_url = window.location.origin +
                    window.location.pathname +
                    new_search +
                    window.location.hash;
      window.history.replaceState({}, "", new_url);
      return;
    }
  }
}
_remove_token_from_url();
</script>
</body>

</html>
```