Setting up a Ruff pre-commit walkthrough

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First Run Ruff Locally to identify errors

- Installing Ruff in your environment using
  - Pip install Ruff
- Once installed, go to folder where repo is located
- Go to src folder
- Type "ruff check ." In command line

```
⊗ (pycalcv3) deanlab@SW575738BF calculator-exercise % ruff check .
controller.py:5:1: F403 `from pycalc.constants import *` used; unable to detect undefined names
controller.py:73:40: F405 `ERROR_MSG` may be undefined, or defined from star imports
model.py:3:1: F403 `from pycalc.constants import *` used; unable to detect undefined names
model.py:23:5: E722 Do not use bare `except`
model.py:24:18: F405 `ERROR_MSG` may be undefined, or defined from star imports
pycalc.py:8:8: F401 [*] `os` imported but unused
pycalc.py:15:26: F401 [*] `PyQt5.QtCore.Qt` imported but unused
view.py:4:29: F401 [*] `PyQt5.QtWidgets.QApplication` imported but unused
Found 8 errors.
[*] 3 fixable with the `--fix` option.
○ (pycalcv3) deanlab@SW575738BF calculator-exercise % █
```

Setting up a Pre-commit

- First Install Pre-commit
  - pip install pre-commit
  - Add dependency in pyproject.toml (it should already be added)

- create .pre-commit-config.yaml file and add to repo

- In .pre-commit-config.yaml file
  Add the following pre-commit information

Add this to your `.pre-commit-config.yaml`:

```
- repo: https://github.com/astral-sh/ruff-pre-commit
  # Ruff version.
  rev: v0.1.2
  hooks:
    - id: ruff
```

Or, to enable autofix:

```
- repo: https://github.com/astral-sh/ruff-pre-commit
  # Ruff version.
  rev: v0.1.2
  hooks:
    - id: ruff
      args: [--fix, --exit-non-zero-on-fix]
```

Editing .pre-commit-config.yaml file

- Configure .pre-commit-config.yaml file to use ruff
- Add ruff pre-commit to pre-commit.yaml file to include ruff
- Find information for other packages for pre-commits here:
  - https://pre-commit.com/
  - https://pre-commit.com/hooks.html
- Push yaml file to repo on github

```
! .pre-commit-config.yaml
1   repos:
2   -   repo: https://github.com/pre-commit/pre-commit-hooks
3       rev: v2.3.0
4       hooks:
5       -   id: check-yaml
6       -   id: end-of-file-fixer
7       -   id: trailing-whitespace
```

```
12      - repo: https://github.com/charliermarsh/ruff-pre-commit
13        # Ruff version.
14        rev: 'v0.0.191'
15        hooks:
16          - id: ruff
17            # Respect `exclude` and `extend-exclude` settings.
18            args: ["--force-exclude"]
```

Using pre-commit

- To install pre-commit hooks from configuration yaml file
  - pre-commit install
  - This install pre-commit hooks for each upcoming commit
- To run pre-commit hooks on current files, go to specific directory and run
  - Pre-commit run --all-files
- This will identify all errors
  - We can autofix errors by specifying autofix.

Add this to your `.pre-commit-config.yaml`:

```yaml
  - repo: https://github.com/astral-sh/ruff-pre-commit
    # Ruff version.
    rev: v0.1.2
    hooks:
      - id: ruff
```

Or, to enable autofix:

```yaml
  - repo: https://github.com/astral-sh/ruff-pre-commit
    # Ruff version.
    rev: v0.1.2
    hooks:
      - id: ruff
        args: [--fix, --exit-non-zero-on-fix]
```