Software requirements for unit tests and Git version control

- Anaconda
    - Download link: https://www.anaconda.com/distribution/#download-section
- Git
    - git-scm.com/downloads
- Create a GitHub account
    - github.com

Configuration for unit tests

1. Fork lbl-srg/modelica-buildings to your own account
2. Clone modelica-buildings (below is the command)
    - git clone github.com/account-name/modelica-buildings
3. Configure git with GitHub account:
    - git config -- global user.name “account-name” (without quotation marks)
    - git config -- global user.email “email-address” (without quotation marks)
4. Install BuildingsPy
    - pip install git+https://github.com/lbl-srg/BuildingsPy.git

Unit tests procedure

1. Develop a block/model in Modelica

2. Create a test model for the block/model in the Validations or Examples package

    - Add in the last annotation the following entry

```
annotation (__Dymola_Commands(file="modelica://Buildings/Resources/Scripts/Dymola/Controls/Sources/Examples/DayType.mos"
      "Simulate and plot"),
      experiment(StartTime=-1.8144e+06, Tolerance=1e-6, StopTime=1.8144e+06),
```

3. Provide a Dymola script (.mos file) in the following folder to run the test model

    - Buildings\Resources\Scripts\Dymola\…\Validations or

    - Buildings\Resources\Scripts\Dymola\…\Examples

4. Functions to be included in the mos file

    - simulateModel("Buildings.Controls.Sources.Examples.DayType", startTime=-1.8144e+06, tolerance=1e-6, stopTime=1.8144e+06, method="dassl", resultFile="DayType");

    - createPlot( );

5. Reference

    - https://github.com/lbl-srg/modelica-buildings/wiki/Unit-Tests

Unit tests procedure

1. Commit to git the following files generated by running unit tests

   - Buildings\Resources\ReferenceResults\Dymola
   - Resources\Scripts\OpenModelica\compareVars

2. Demo to run unit tests

   - cd modelica-buildings\Buildings
   - python ..\bin\runUnitTests.py -s Buildings.Controls.Sources

Git workflow

1. Open an issue on https://github.com/lbl-srg/modelica-buildings/issues
    - Describe the issue that you are working on
    - Ask Michael to create a branch on lbl-srg for this issue
2. Create a new branch to commit work
    - git branch “new-branch-name” (without quotation marks)
    - git checkout “new-branch-name” (without quotation marks)
    - git add .
    - git commit -m “a message to indicate the changes”
    - git push origin “new-branch-name”
    - Go to GitHub to make a pull request for Michael to review
3. References:
    - https://github.com/lbl-srg/modelica-buildings/wiki/Git-Information

Git workflow (backup)

1. Configure remote branches
    - Check remote origin
        - cd modelica-buildings
        - git status
        - git remote
    - Add remote upstream
        - git remote add upstream https://github.com/lbl-srg/modelica-buildings.git
2. Manage remote branches
    - Track upstream branch
        - git checkout --track upstream/branch-name
    - Updating remote branch
        - git pull upstream branch-name
        - git push origin branch-name