

Geometric & Graphics Programming Lab: Lecture 25

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Workshop N.10 – Housing: coherent assembly of plugins

Housing: coherent assembly of plugins

Goal: Develop a **parametric model** of a **multistorey house** in Python, by coherently assembling several **pluggings** previously designed and developed.



Figure 1: Images from Google

Design constraints

- file input (filetype `.lines`) of 2D wire-frame design (either single- or multi-storey)

The `MultistoreyHouse()` plugin must include (at least) parametric plugging for:

- internal/external staircase
- structure's spatial frame
- roof
- doors/windows

Look at some examples

- house 2 storey plans
- multi story house designs
- house design plans
- house plans

Some terminology

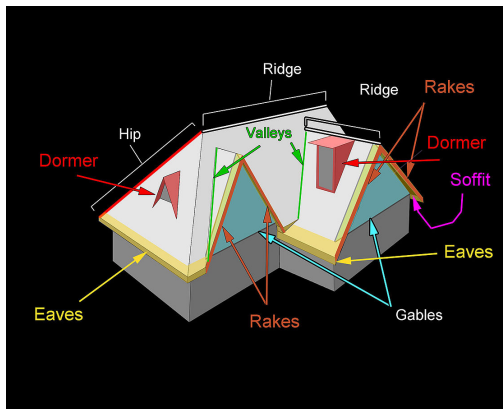


Figure 2: <https://en.wikipedia.org/wiki/Roof#/>

By KDS444 - Own work, CC BY-SA 3.0

REQUIREMENTS

- Write a single notebook, named `workshop_10.ipynb`
- Choose a notebook Title, for example
`<Design_of_parametric_multistorey_house>`
- Start the notebook with a `web reference` and one/more `image/s` of your `type of design`
- List the `variables` used in your code, with a `textual definition`
- Include the coding of one main parametric function named `multistorey_house`
- Please `currying` the main function (n. of levels `free`):
- Choose your own formal parameters
- Provide the `images` generated by `some executions` with very different actual parameters.
- Use measures in `meters (m)`

Style specs

- use **meaningfull** **identificators** (variables and parameters)
- use **camelCase** ids
- add **Python** **docstrings** (google for it)
- produce a **single** notebook file, named **workshop_10.ipynb**
- file path: **your_repo/2017-01-13/workshop_10.ipynb**

Minimal git/github instructions

Minimal git/github instructions (1/2)

create your local repository

```
$ mkdir 2017-01-13  
$ cd 2017-01-13  
$ touch workshop_10.ipynb
```

Minimal git/github instructions (2/2)

commit your work

```
$ git add -A .
```

```
$ git commit -m "add a short note to commit"
```

```
$ git push origin master
```