

Heat Loss Calculator USERS' GUIDE

1. The whole program consists of two files, namely `cw_part4_run.py` and `cw_part4_tkinter_helper.py`. The two files **must** be saved in the same directory.
2. You can use the software by activating **`cw_part4_run.py`** under a python environment, like this:

```
sharon@sharon-VirtualBox:~/Heat Loss Calculator/tkinter_helper.py/heat_loss_calculator2$ python cw_part2_run.py
```

3. After it is successfully activated, a window will pop up.

The screenshot shows the 'Heat Loss Calculator' window. It has a title bar with standard window controls. The interface includes several input sections: 'Your ideal heat loss:' with a text box and 'W/K' unit; 'The current simulated heat loss:' with two text boxes and 'W/K.' units; 'Room's feature' with a 'Level:' dropdown menu (options: Ground floor, Intermediated level, Top floor) and a 'Number of external wall:' dropdown; 'Room's dimensions' with 'Length:', 'Width:', and 'Height:' text boxes, each followed by an 'm' unit; 'Temperature' with 'Ambient' and 'Internal' text boxes, each followed by a '°C' unit; a 'Calculate Now' button; a 'HEAT LOSS:' label with a text box and 'W/K' unit; and a 'W POWER REQUIRED' label with a text box. A 'Save' button is also visible on the right side.

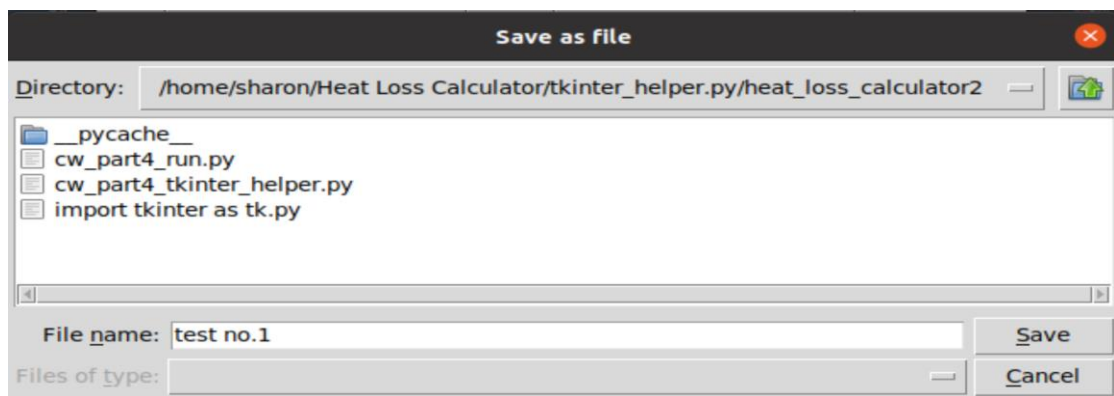
Select the drop-down menu or input data manually for necessary parameters. Make sure every parameter is input, otherwise you will receive a warning.

4. After step3 is done, press the button **“Calculate Now”**. Then you get the answer.

This screenshot shows the 'Heat Loss Calculator' window after a calculation. The 'Calculate Now' button is highlighted with a dashed border. The 'Your ideal heat loss:' field now contains the value '34'. The 'The current simulated heat loss:' section shows '52.0 W/K.' in a green text box and '18.0 W/K.' in a red text box. The 'Room's feature' section shows 'Level:' set to 'Ground floor', 'Insulation:' set to 'Mediocre insulation', and 'Number of external wall:' set to '2'. The 'Room's dimensions' section shows 'Length:' as '5 m', 'Width:' as '5 m', and 'Height:' as '2.7 m'. The 'Temperature' section shows 'Ambient' as '23 °C' and 'Internal' as '30 °C'. The 'HEAT LOSS:' field now displays '52.0 W/K' and the 'W POWER REQUIRED' field displays '364.0 W POWER REQUIRED'. The 'Save' button remains on the right.

Red implies more effort need to be done, while **green** indicates you have already achieved the target.

5. If you want to save the current situation, press **“Save”**.



A .txt file with the main data will be saved in your designated directory.