

General Instruction:

Please follow this template to finish your homework report. Your report for each of the task must reads like a self-contained Lab Report, namely, with “task statement”, “methods you have tested”, necessary explanation or comments for the results, and (detailed) caption for each figure or graph provided; Better, you may draw a brief conclusion (or learning outcome) for each task.

You may start to write your report from a new blank page. This cover page and instruction pages will not be counted into the page limit of your report.

Please remember that your final report (file) must be in **PDF format** and can be opened without error using Acrobat or OSX Preview or other PDF reader.

[End of Instructions]

Hw1 Submission Requirement and Marking Criteria

Task 1: OBJ mesh file creation and manipulation (20 marks)

- (a) You should upload the required OBJ file (5 marks). Describe how you create the OBJ file and put the screenshot of MeshLab visualization in the report (5 marks)
- (b) Discuss the difference between two meshes. (6 marks) Screenshots of the two meshes. (4 marks)

Task 2: Transformations for graphics rendering (70 marks + 10 bonus points)

- Function *get_model_matrix* : Put a screenshot of your code with appropriate comments. (10 marks) Explain how you implement the function. (5 marks)
- Function *get_projection_matrix*: Put a screenshot of your code with appropriate comments. (30 marks) Explain how you implement the function. (15 marks)
- Show the results of rotating by 45 and 105 degrees. (10 marks)
- **[Bonus points]** Draw a screenshot of the result by rotating the triangle around axis (1, 1, 0) by 60 degrees. (5 marks) Explain how you implement the *get_rotation* function. (5 marks)

Possible additional penalties:

- Failed to remove intermediate files. (5 marks)
- Uploaded file is corrupted. (5 marks)
- Report is longer than 3 pages. (5 marks)

- Code cannot be successfully compiled. (5 marks)
- Late submission. (as per rule, but no later than one week).
- Failed to fill in your information in the declaration of originality. (5 marks)

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Report for COMP4610/8610 HW1:

Task-1:

Task-2:
