

Requirements:

- 1. Draw a 3D Scene that contains the following objects:**
 - a. 3D building at least 2 floors, a roof, one door and four windows.
 - b. 3D Bicycle.
- 2. Apply the following color models**
 - a. Apply suitable colors to each object in building
 - b. Change background to green.
 - c. Apply black color to 3D Bicycle
- 3. Apply the following transformations on the building:**
 - a. Use key 'o' to open the door with suitable angle.
 - b. Use key 'c' to close the door with suitable angle.
 - c. Use key 'O' to open the windows with suitable angle.
 - d. Use key 'C' to close the windows with suitable angle.
- 4. Apply the following transformations on the bicycle:**
 - a. Use key 'f' to move the bicycle forward in X-axis direction.
 - b. Use key 'b' to move the bicycle backward in X-axis direction.
 - c. Use key 'r' to rotate right wheel with suitable angle.
 - d. Use key 'l' to rotate left wheel with suitable angle.
- 5. Move the bicycle in a circular street that surrounds the building in automatic manner.**
 - a. Use the mouse left button to enable animation so that the bicycle starts rotating around the building.
 - b. Use the mouse right button to disable animation.
- 6. [Bounce]**
 - a. Control camera coordinates to see 3D scene from different directions

Project Rules:

- 1- Project grades: 10 grades
- 2- Submission will be in your lab (starting from 16/5/2024)
- 3- No late submission.
- 4- -10 for copies
- 5- Groups: 3 students max from the same TA groups.
- 6- Be ready to be asked about each function.