

Computer Science 417
Computer Animation
Fall 2025
Project 5 – Python Scripting

Due: Thursday, 11/20/2025

Description

For this project, write a Python script for Maya to create a short animation running 10-20 seconds that features a dynamic system with dominoes. The animation should include at least 200 dominoes that, when knocked over, reveal a design or a simple message. Use shading and lighting to enhance your animation. Feel free to create environmental elements as well; however, all elements must be produced by the script. You may use Mash if you like, but it must be scripted.

Specifications

Please adhere to the following guidelines:

- write a script that creates an animation lasting at least 10 seconds:
 - prompt the user for the name of an image file to reveal (using `fileDialog2`)
 - use the dimensions to determine the numbers of rows and columns of dominoes
 - place the dominoes in their proper positions on a ground plane or surface
 - place the camera in a location that will show the reveal
 - set any options/preferences needed
 - create dynamics properties
 - texture each domino with a single color corresponding to the image
 - run the simulation and optionally bake the keys
 - prompt the user to confirm whether the animation should be rendered or playblasted (`confirmDialog`)
 - if yes, set any options necessary and render to create the movie
- add lighting and shading to enhance the look of your model
- if desired, include code at the beginning of the script to remove any items in the scene
- code will be graded by running it in Maya and viewing the generated animation
- create a webpage showing your work (see below)

Feel free to view domino shorts on the internet. Be creative!

As an alternative, you may complete a project based on the tutorial from class (linked on the course webpage as “Python Scripting in Maya”) for a maximum grade of 85 points. The tutorial spans five videos on YouTube; however, the main part of the project starts at the end of Part 2 (a link to the python script is located beneath the video on YouTube). To complete this project, you must:

- replace any actions performed manually in Maya with Python script and combine the scripts such that a single script will create an animation similar to that shown at the end of Part 5
- add a UI box near the beginning of the script to input the number of flat hex cylinders to create (the tutorial uses 50)
- color the flat hex cylinders with random colors (instead of red) near the end of Part 5

Render the animation created by the script and post a link on your webpage.

Submission Requirements

Create a webpage with the following items:

- your name, the date, and project identification
- images of your work, including:
 - design and written description of your animation
 - a link to your final animation (embedded, vimeo, or YouTube)
- Python script should be submitted through Blackboard
- any explanation of your work that you would like to provide

We will view and critique the animations from your webpage in class (at the same web location you sent previously). You will be graded on your webpage, presentation, Python code, and the quality of your animation. Have fun!