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**Intro to Blender**

**DevLUp FSU**



**GBM #4**



October 3rd, 2024



**Welcome!**

# Next Few Weeks

**COUNTDOWN TO GAME JAM: 29 DAYS**

Date	Week #	GBM Title	Secondary Event	Presenter
29 Aug	1	(No Meeting)	Involvement Fair	
5 Sep	2	Intro to Club and New Club Project		Club
12 Sep	3	Intro to Game Design		Chris
19 Sep	4	Intro to 3D Game Dev in Godot		Dion
26 Sep	5	Intro to 3D Modelling in Blender		Jake, Parker, Emma
3 Oct	6	Blender Animations		Ares
10 Oct	7	Blender Materials		Parker, Jake
17 Oct	8	Pixel Art		Ares, Emma
24 Oct	9	Tile Maps		Jake, Ares
31 Oct	10	Spooky Game Night Social	CANDY FOR ALL (No Candy)	Jack Skellington
7 Nov	11	Writing for Games		Emma, Chris
14 Nov	12	UI Design		Emma, Jake
21 Nov	13	3D Math		Dion
28 Nov	14	Thanksgiving Break		
5 Dec	15	Goodbye Chris Social		Chris
12 Dec	16	Finals		

# DevLUp War Games - Game Jam

- DevLUp-wide Game Jam
  - FSU, UF, FIT, FAU, and more
- November 1st — 3rd
  - 48 hours
  - Starts Friday afternoon/evening
  - Ends Sunday afternoon/evening
- We will likely have access to the Innovation Hub (still needs to be reserved)



# Download Blender



<https://www.blender.org/download/>

#👁👁showoff **recap**

# Intro to Blender

Lesson plan:

- UI basics
- Object mode
- Edit mode
- Modifiers
- Sculpt mode

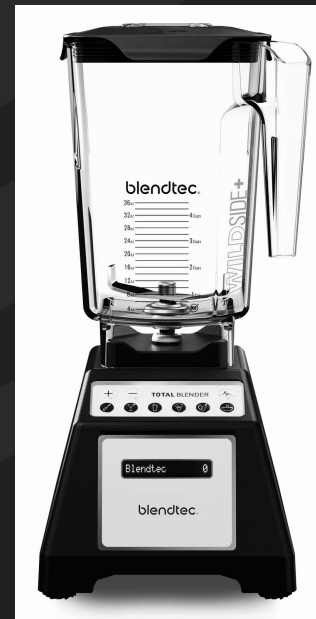


Fig. 0: *The same joke as last year, again*



User Perspective  
(1) Collection | Cube



# Let's Explore this UI!

▼ Add Cube

Size 2m

Generate UVs ☒

Align World

Location X 0m

Y 0m

Z 0m

Rotation X 0°

Y 0°

Z 0°

▼ Transform

Location:

X: 0m

Y: 0m

Z: 0m

Rotation:

X: 0°

Y: 0°

Z: 0°

XYZ Euler

Scale:

X: 1.000

Y: 1.000

Z: 1.000

Dimensions:

X: 2m

Y: 2m

Z: 2m

User Perspective  
(1) Collection

# Viewport

Scene ViewLayer

Scene Collection

- Collection
- Mesh
- Rig
- Collision
- Extras

Scene

ViewLayer

Camera

Background Scene

Active Clip

Units

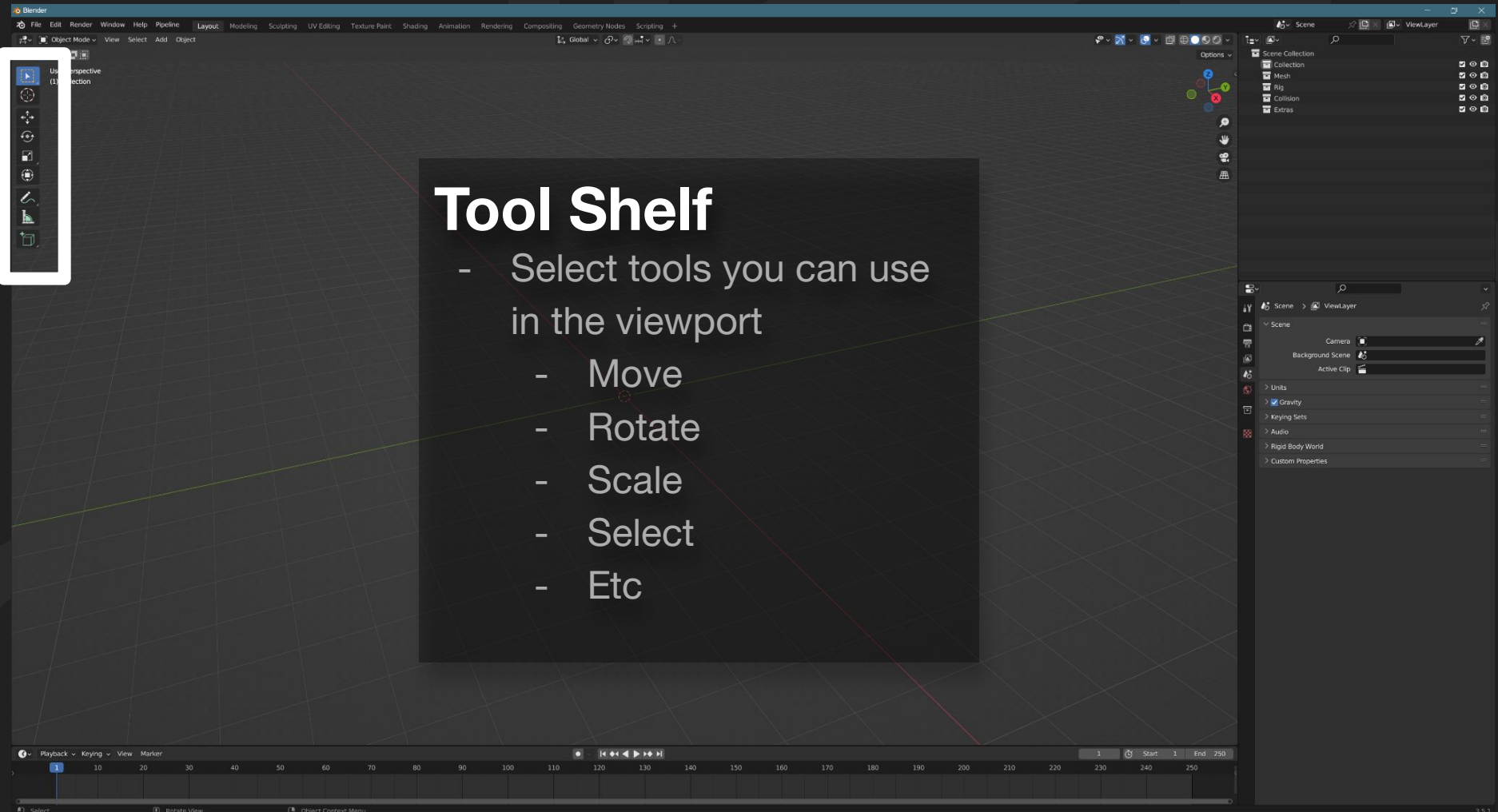
Gravity

Keying Sets

Audio

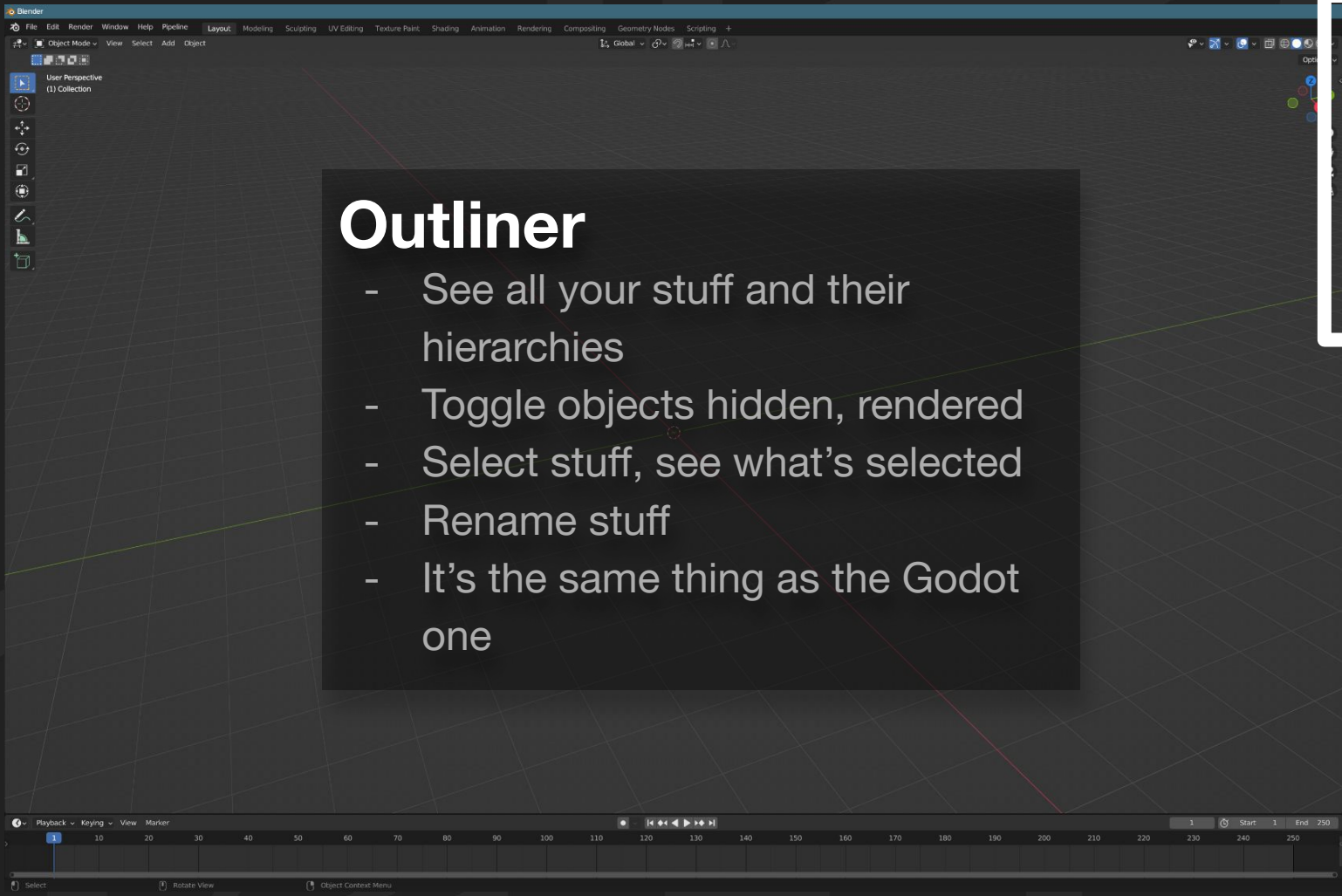
Rigid Body World

Custom Properties



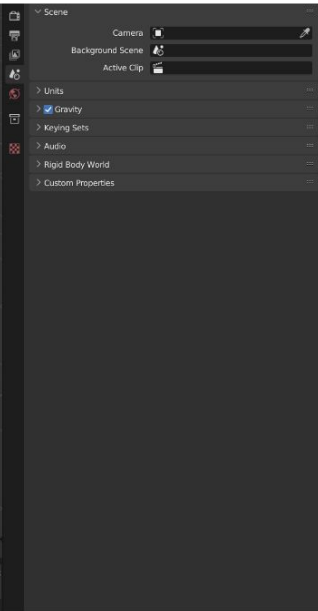
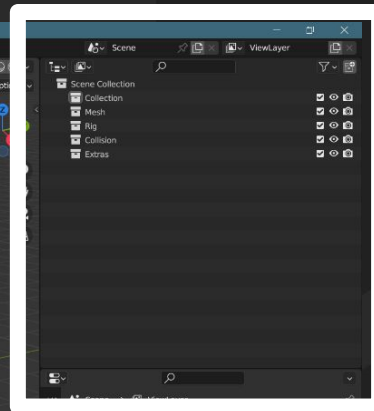
# Tool Shelf

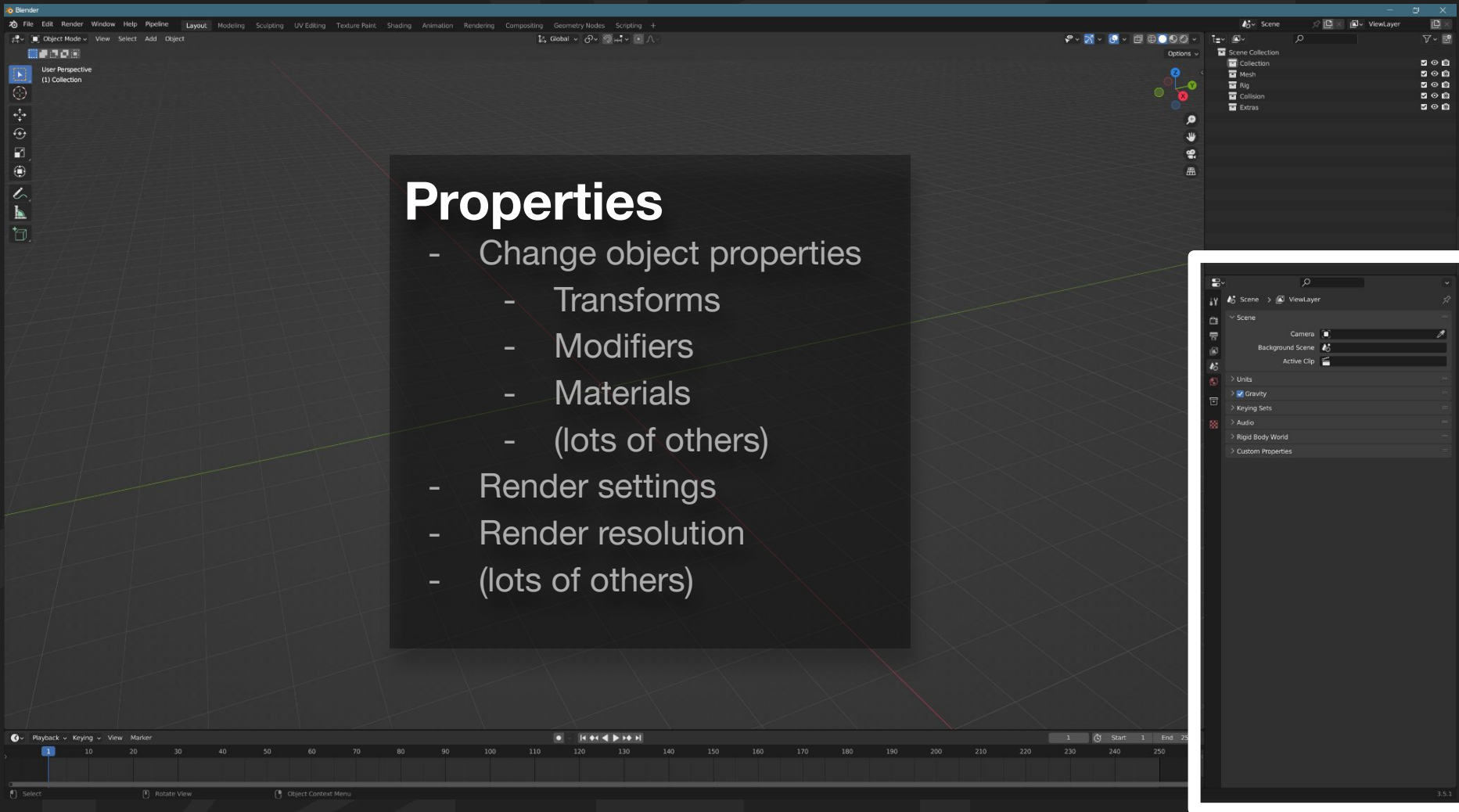
- Select tools you can use in the viewport
  - Move
  - Rotate
  - Scale
  - Select
  - Etc



# Outliner

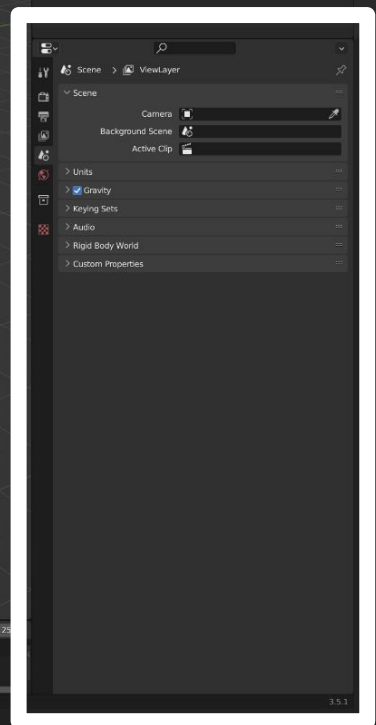
- See all your stuff and their hierarchies
- Toggle objects hidden, rendered
- Select stuff, see what's selected
- Rename stuff
- It's the same thing as the Godot one





# Properties

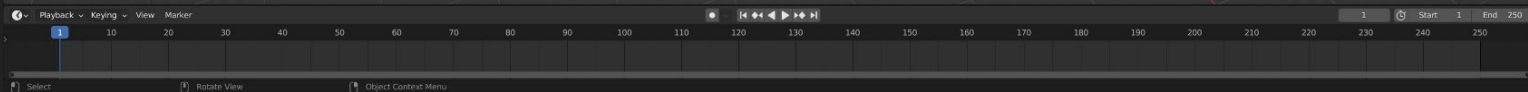
- Change object properties
  - Transforms
  - Modifiers
  - Materials
  - (lots of others)
- Render settings
- Render resolution
- (lots of others)



# Timeline and Status Bar

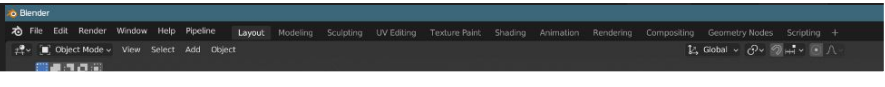
Timeline:

- Add, remove, edit keyframes, interpolation
- Play and pause animation
- Change the number of animation frames



# Viewport Toolbar

- Change modes (object mode, edit mode)
- Change selection type (vert, edge, face)
- Viewport view mode (x-ray, hide overlays, render type)



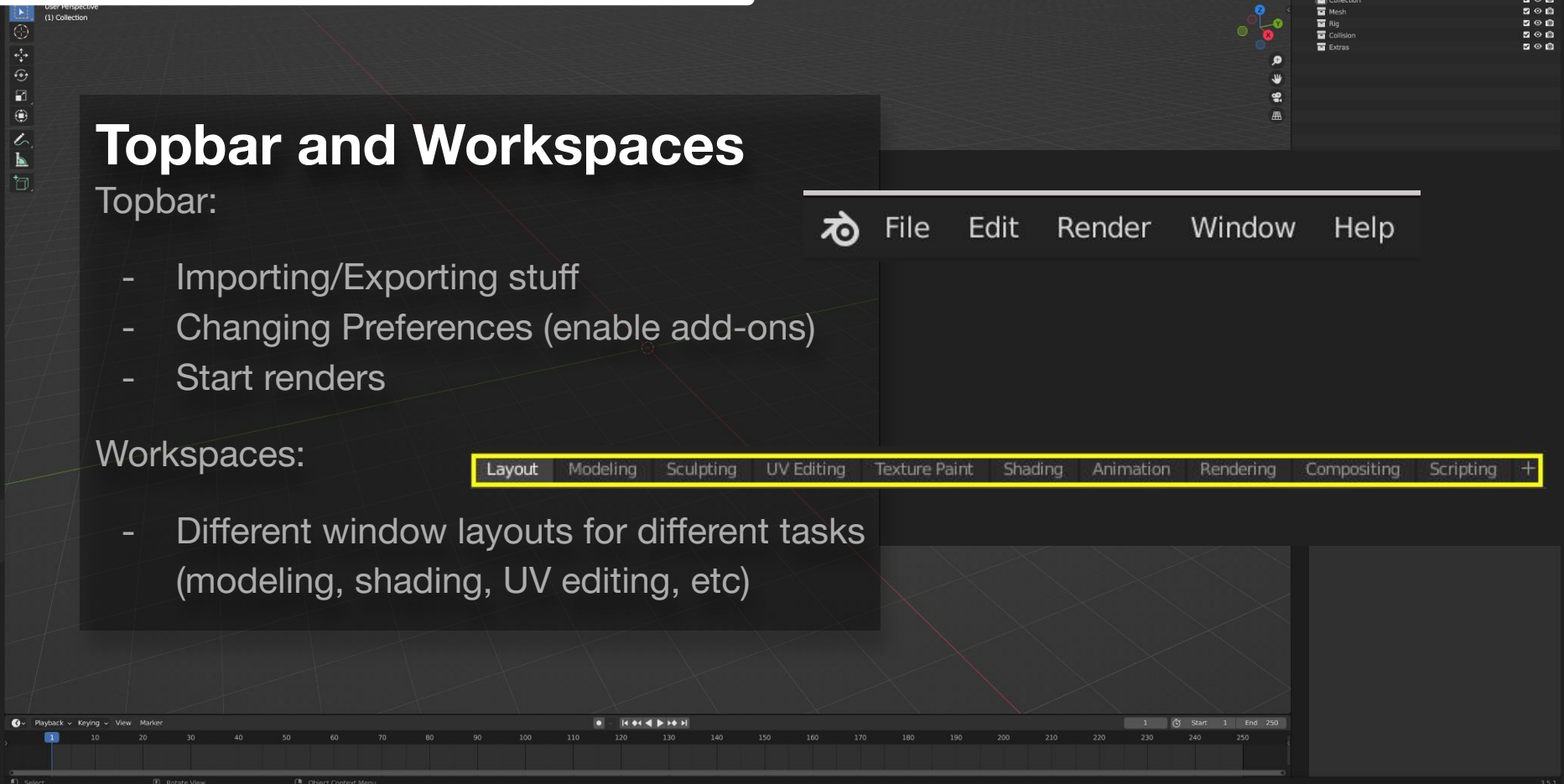
# Topbar and Workspaces

## Topbar:

- Importing/Exporting stuff
- Changing Preferences (enable add-ons)
- Start renders

## Workspaces:

- Different window layouts for different tasks (modeling, shading, UV editing, etc)



# Essential Tools

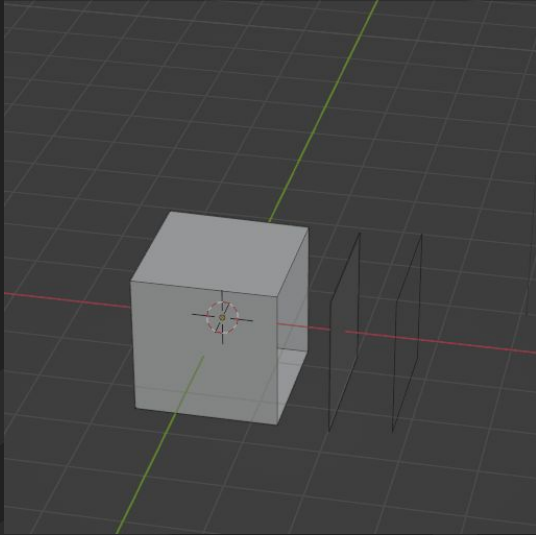


Fig. 4: *extrusion*

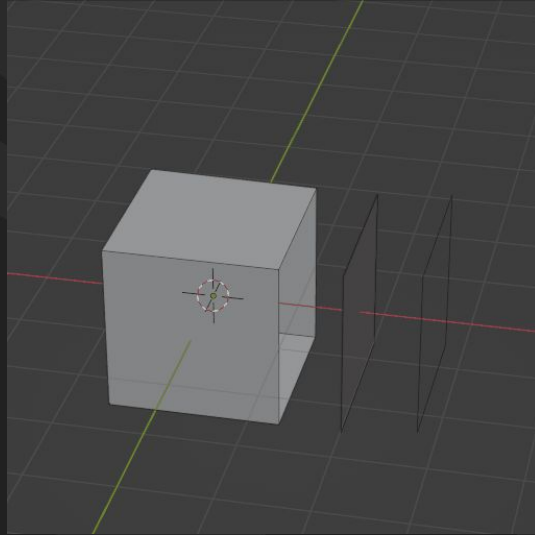


Fig. 5: *loop cut*

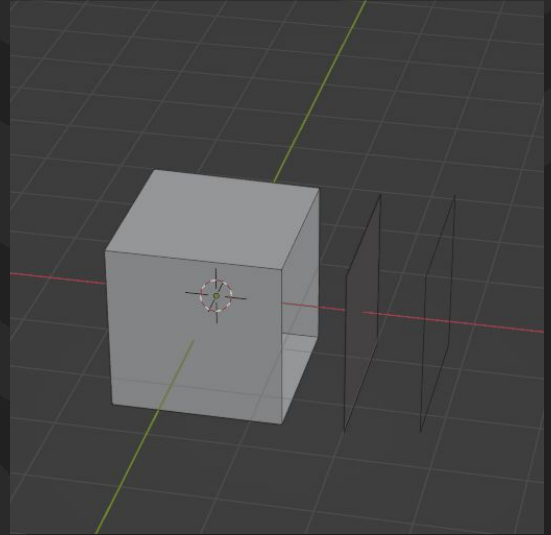


Fig. 1: *filling and merging*

Now, with your new knowledge

MUTILATE YOUR CUBE

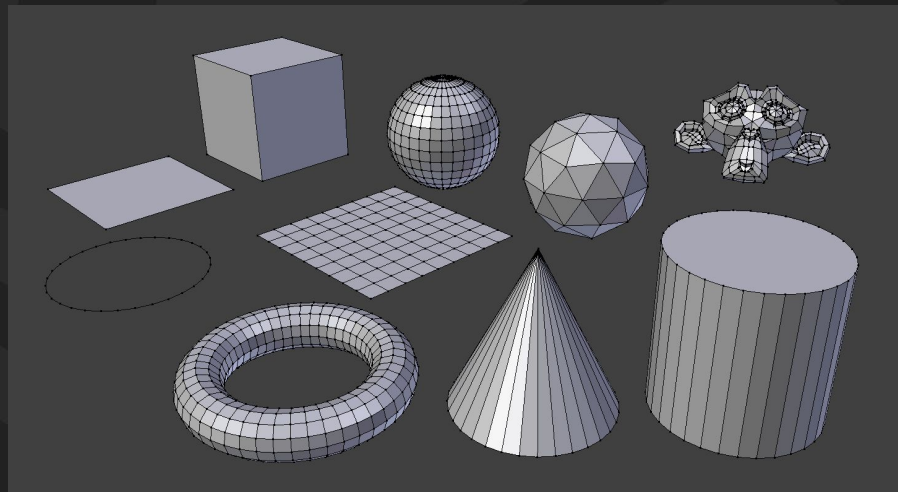
Most messed up cube wins



# Object Mode

# Primitives

- A common object type used in a 3D scene is a mesh. Blender comes with a number of “primitive” mesh shapes that you can start modeling from.
- You can also add primitives in Edit Mode at the 3D cursor.





**Edit Mode**

# Transformations

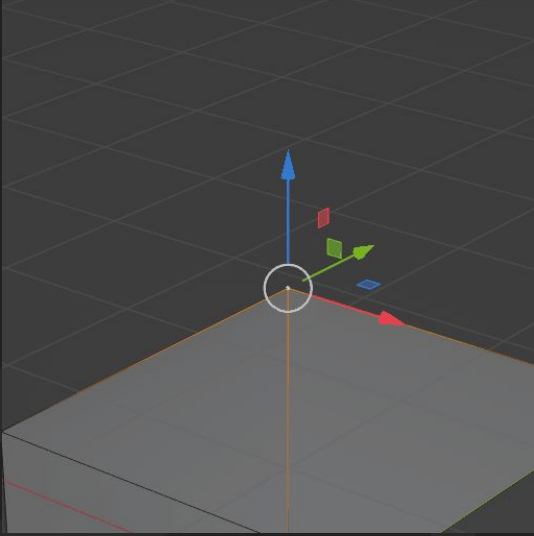


Fig. 1: *position*

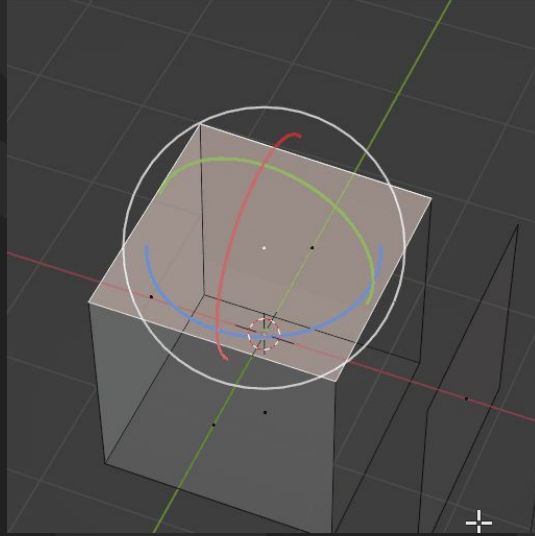


Fig. 2: *rotation*

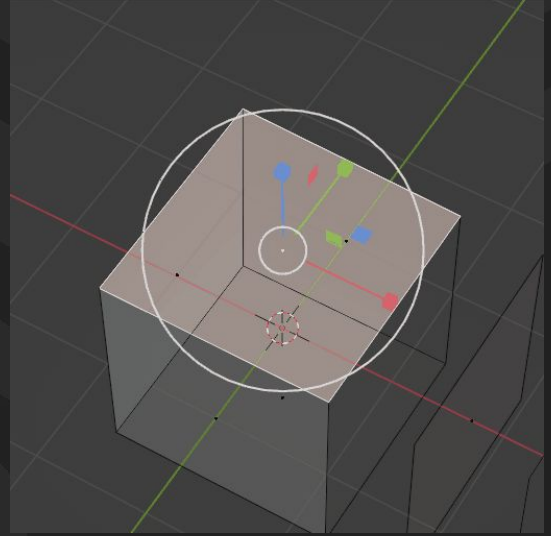
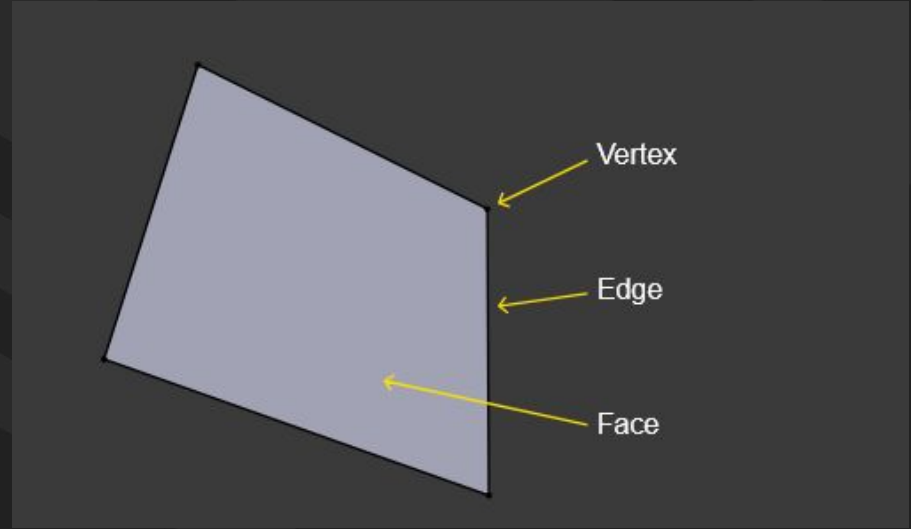


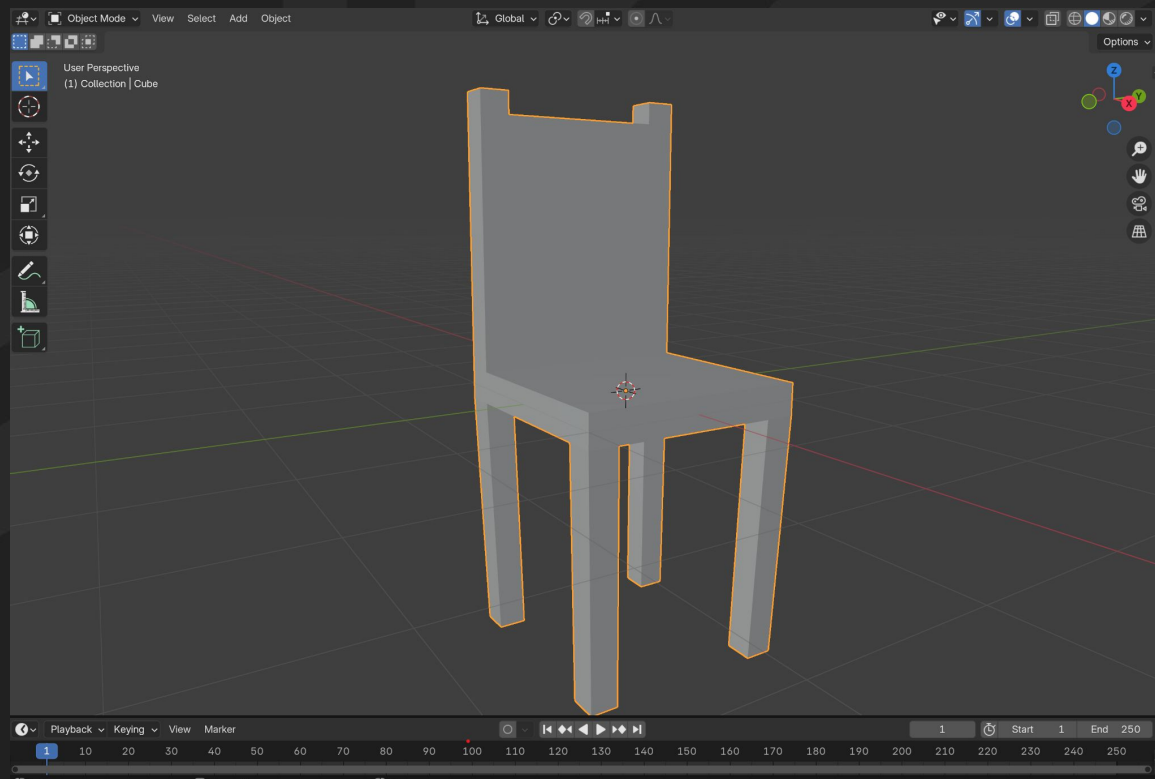
Fig. 1: *scale*

# Entities in 3D space

- Meshes are made up of vertices
- Vertices connect to make edges
- Edges are bridged (filled) to make faces
- Faces connect to meshes

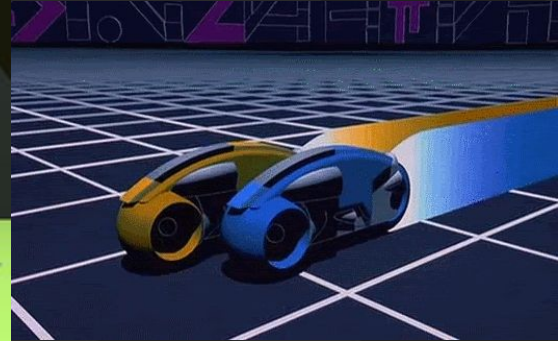
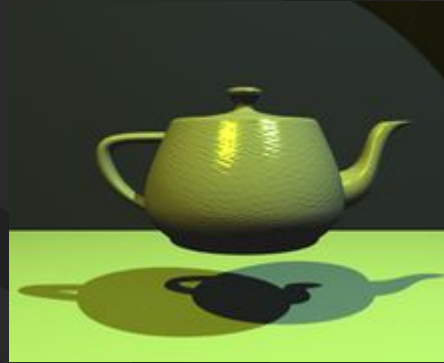


# Quick Modeling Exercise: Make a Chair!

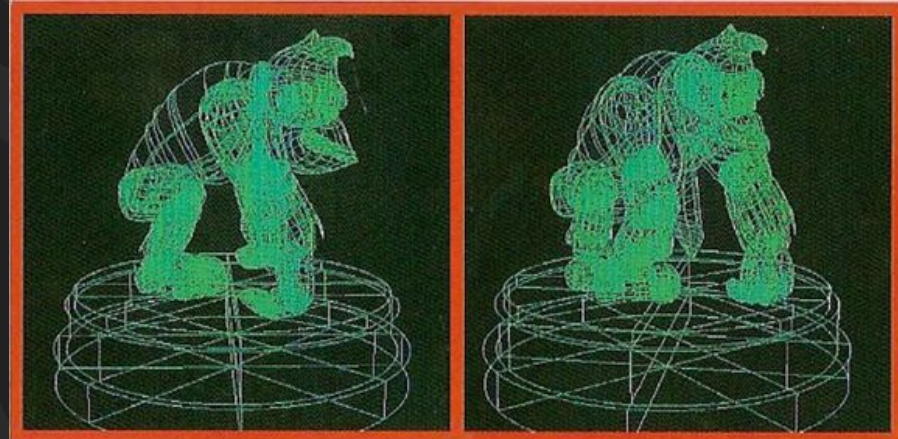
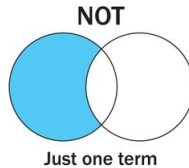
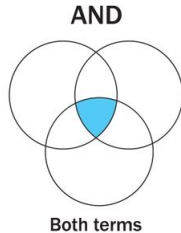
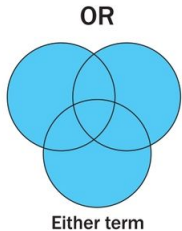


# Back in primitive times

- Back in barbaric times, people used to model objects with 3D primitives using boolean operations.



## BOOLEAN LOGIC



Actual SGI wire-frame models before hair and other textures are added.

# Modifiers

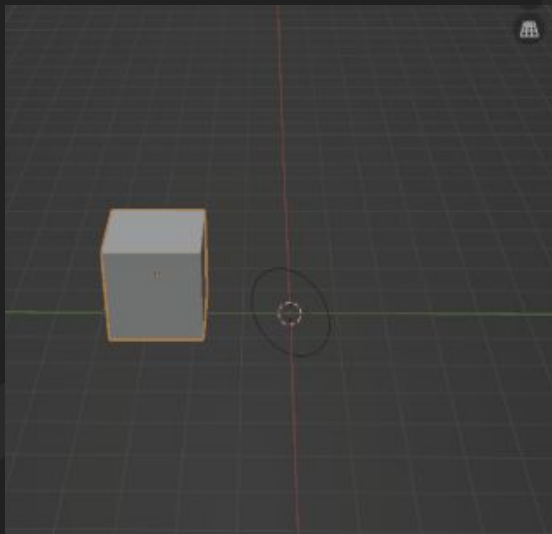


Fig. 4: mirror

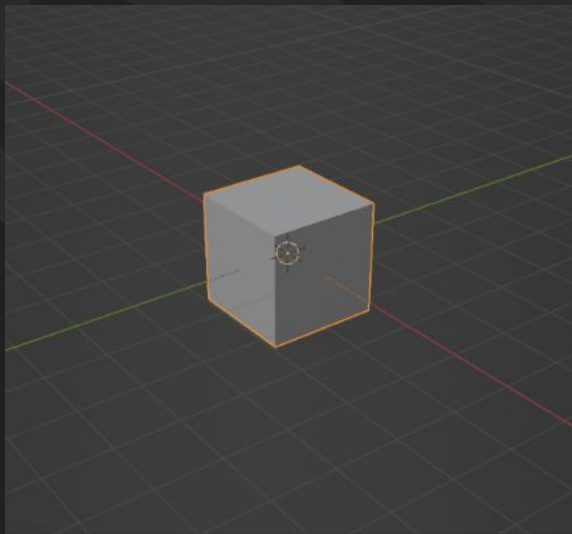


Fig. 5: subdivision surface (sub-surf)

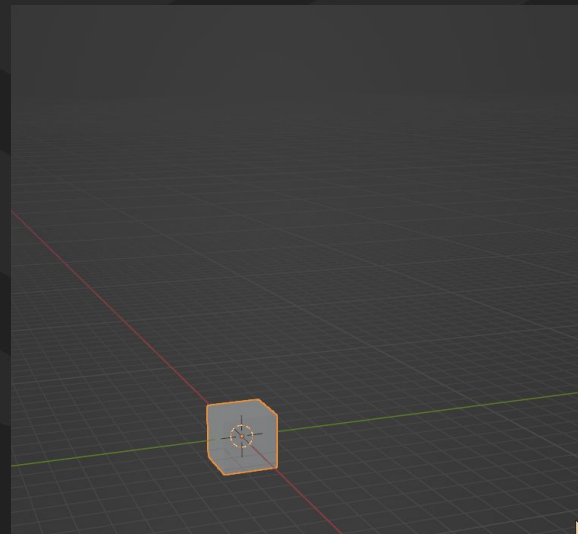
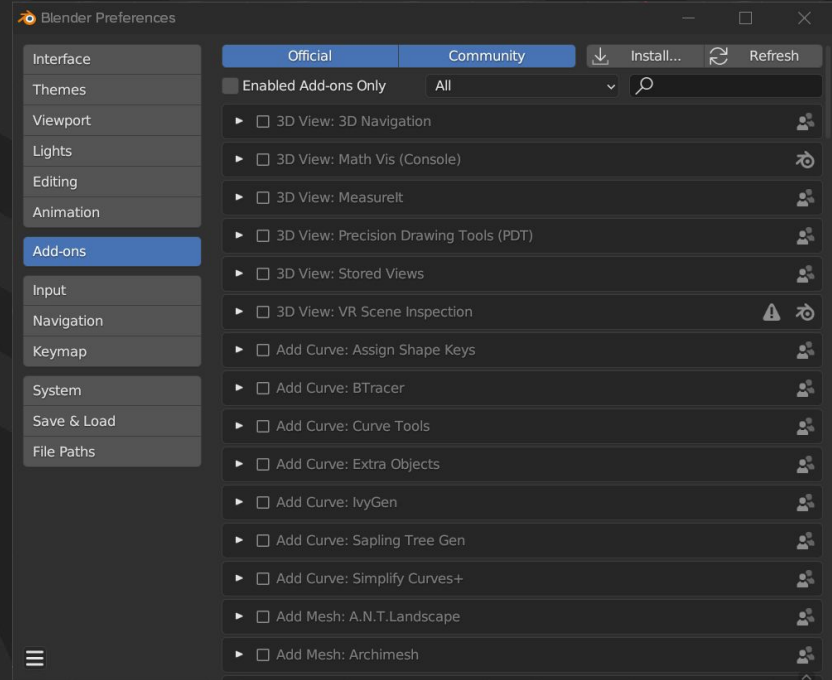


Fig. 1: array

# (aside) Helpful and fun add-ons:

It would be helpful to enable:

- Import Images as Planes
- Looptools
- F2
- Node Wrangler
- Extra Objects (both)
- Sapling Tree Gen



## Keyboard Shortcuts you can use for these:

Move: G

Rotate: R

Scale: S

Add objects: Shift + A

Change Mode: Tab

Selection and Cursor: Shift + S

Loop Cut: Ctrl + R

Duplicate: Shift + D

Repeat Last Action: Shift + R



Try opening a cheat sheet when you work.

# Additional Resources:

[Tech Artist who makes really great shader tutorials:](#)



**Ben Cloward**

@BenCloward 51.1K subscribers 206 videos

This channel focuses on shader creation and other game development tip... >

[Blender guy:](#)



**Blender Guru** ✓

@blenderguru 2.68M subscribers 264 videos

Subscribe for tutorials on learning Blender (open source 3d software). >

[polyigon.com](https://polyigon.com) and 1 more link

[blender reddit \(i don't like reddit but it's still really useful\)](#)



**r/blender**

[Artstation \(many artists post great breakdowns\)](#)



**ARTSTATION**

# Exit Survey:



Fig. 1: *Homer dislikes exit surveys.*

