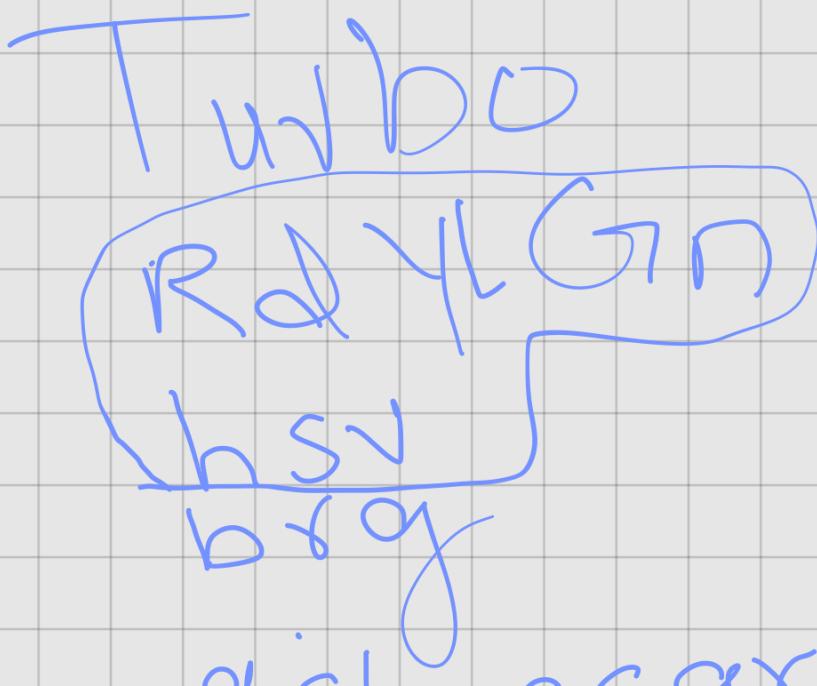


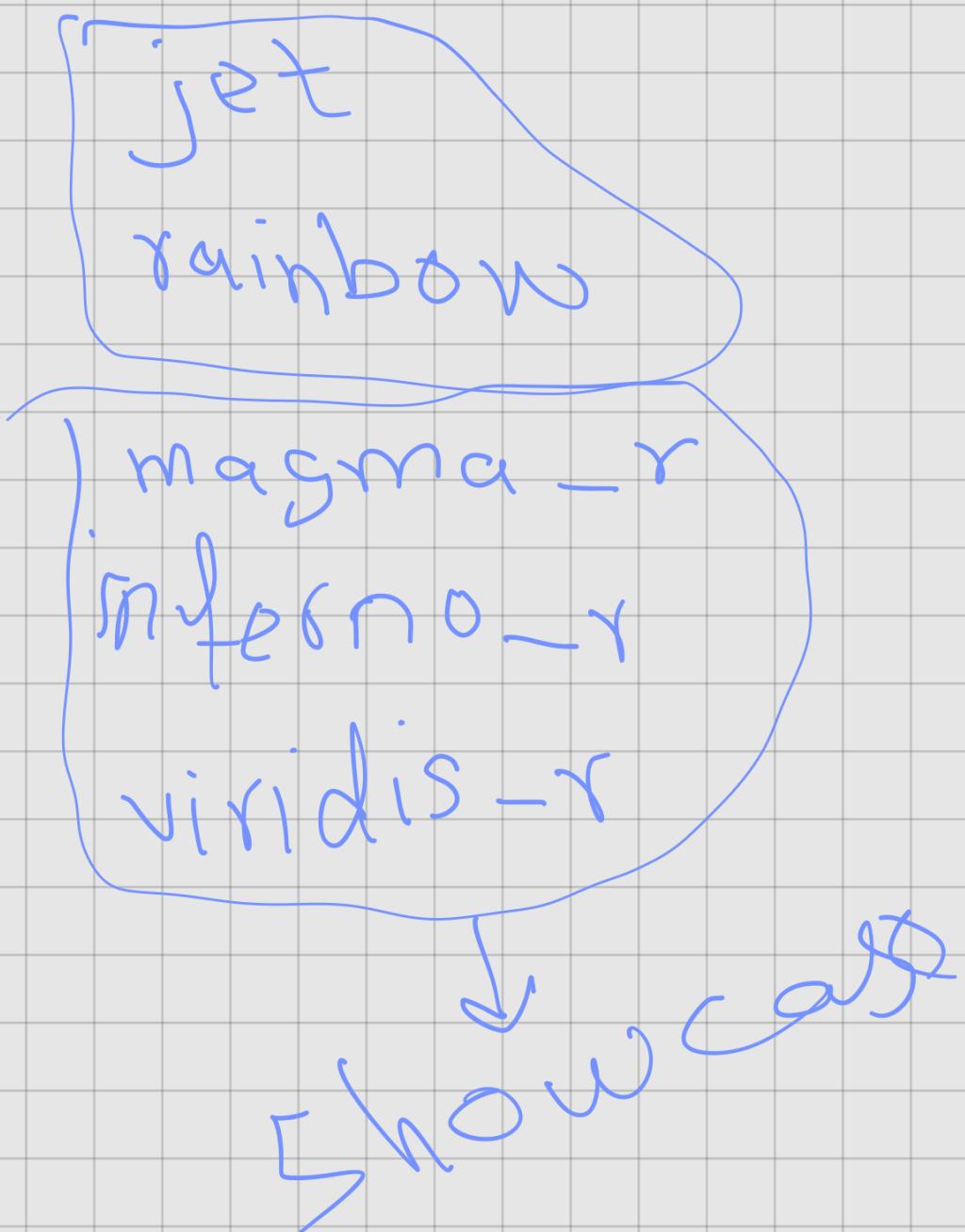
# Semester Project

- Assignments linked with projects
- 3 person group
- Topics → Any topic mentioned in course outline
- Project Report:
  - Introduction
  - Problem Identification
  - Literature Review
  - Research Gap Identification
  - Contributions of Each Member
  - 2 - pages At Max
  - Write " in Latex \*

Assignment #  
1



gist\_nicu  
gist\_rainbow



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Original Video Interpretations:

→ Our Objects:

→ Ellipses

→ Rectangles

→ Triangles

→ Object Manipulations:

→ Rotations (-360, 360)

→ Size (width, height)

→ Opacity (0.1 to 0.9/1)

→ Color (From Avg of Orig-image  
at center of image)

→ Rough Flow:

→ Generate Couple of thousand  
Random Objects.

→ What Makes an Object Good?

→ If an Object makes current  
image closer to the target  
image.

→ How Do we check this?

→ Check Colour difference  
Without our Object b/w  
current and target image.

→ Save it. (bef-add)

→ Then Add the Object to the  
image.

→ Now Calculate the color difference b/w current and target image.

→ Save it. (aft-add)

→ Calculate the sum of the Differences between those values for all the pixels

$$[\text{bef-add}] - [\text{aft-add}]$$



$$\sum [\text{result}]$$

↓  
Combined color-difference reduced with the object.

}

Measure of how much closer this object brings us to our goal.

→ Do Above for all the Random Objects we made:

→ Let Top 100 or so objects live and Rest Die.

→ The ones that are left become parents and produce new list of objects that have slight variations.

→ Measure how well they fit

→ Let good ones reproduce

→ After a couple of rounds of this:

→ We pick the best object we found yet and add it to the image.

→ We can keep doing this

→ Getting Best Object

→ Adding to image

→ So on

:

→ Till we are satisfied with image or image is close enough.

→ This is a simple algorithm

→ They key thing is Each object is added one by one , not all at once.



## Observations (from video)

- The Algo Should Start with larger objects than move on to smaller objects
- Big Objects in beginning / Smaller in the End.
- We can also Use Glow Object.
- We can guess object color from target image

Video Gen Strats: (from Video )

→ Make Existing Objects adapt to New frame

→ If:

- └→ Distance b/w old and new object  
not too much
- └→ The new fram is similar enough  
to current fram.

→ Else:

- Generate Completely New  
frame.

TODO