

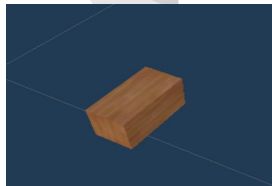
User Study Tutorial



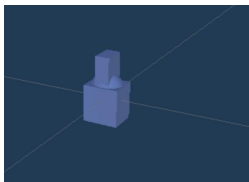
Planned Goals for data collection.

Objects according to their properties

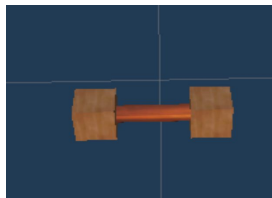
Movable objects



Cube



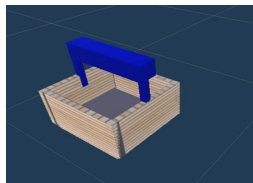
Can



Dumbbell

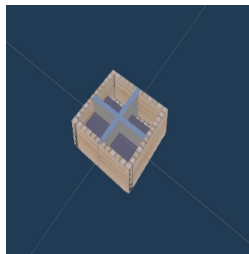


HollowCube

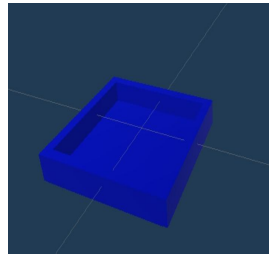


Basket

Pushable objects

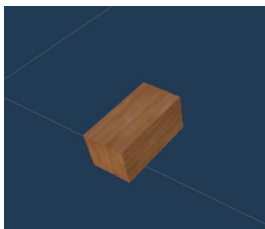


CanPlaceholder



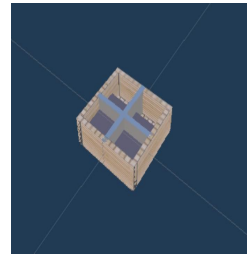
Tray

Stackable objects

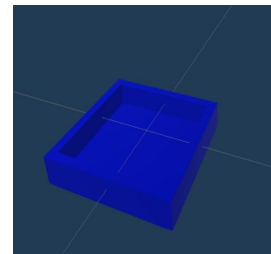


Cube

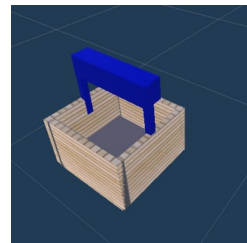
Containable objects



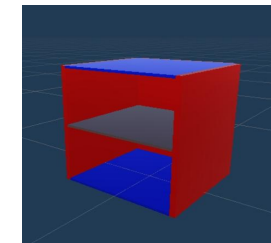
CanPlaceholder



Tray



Basket



Cabinet

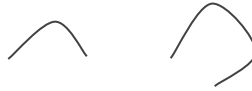
Selection Gesture



1) Line :-



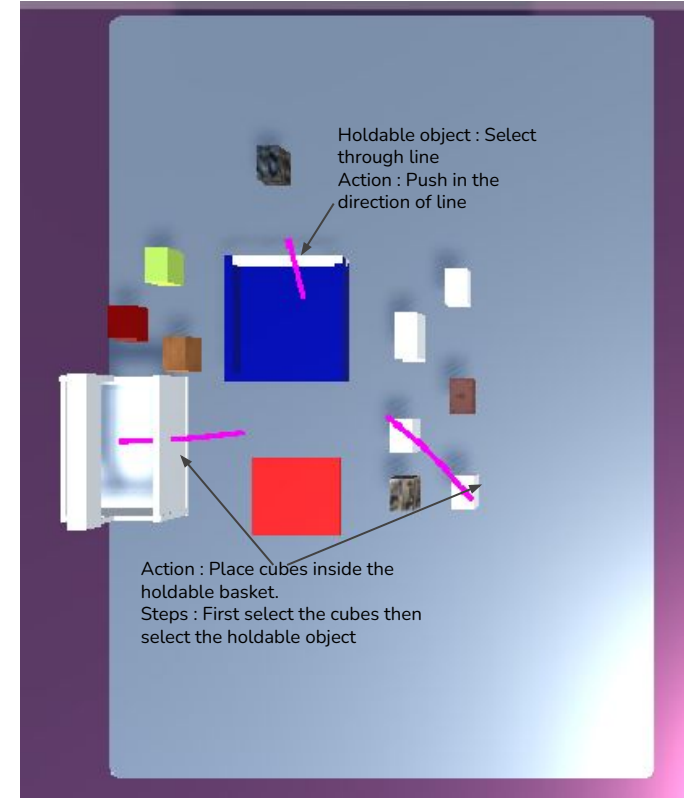
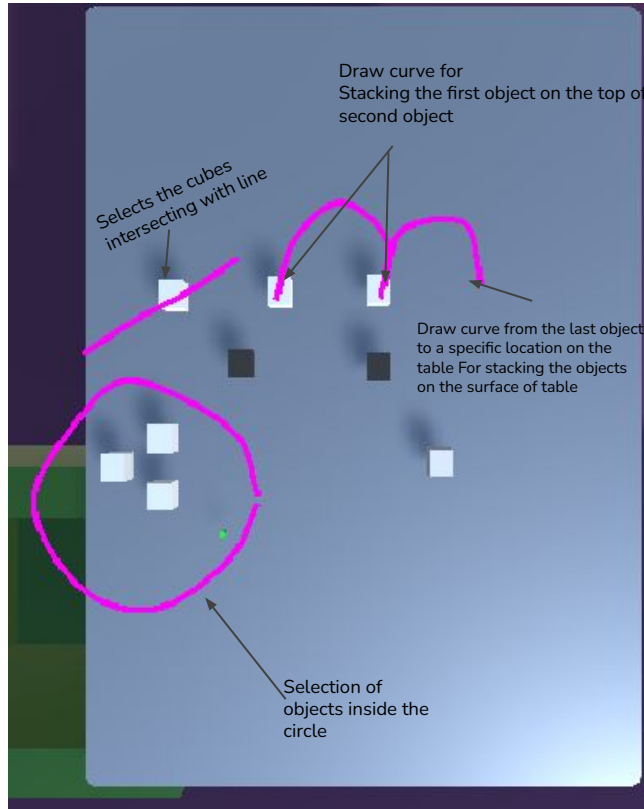
2) Curve :-



3) Circle :- Closed Shape(Intersection)



Selection Examples :







User Instructions:

- 1) For views, press on four sides of the screen.
 1. Left Of Screen:- Side view from left
 2. Bottom Of Screen:- Front view
 3. Right Of Screen:- Side view from right
 4. Top Of Screen:- Top view
- 2) To select items while drawing, keep right-clicking the mouse until the drawing/selection is finished
 - Line : Select objects intersecting with it
 - Circle : Select objects inside the circle
 - Curve : Stack the objects in the order they selected while drawing curve from one object to another.
- 3) Draw up to the point where the objects need to be positioned after selecting them.
- 4) Task confirmation



Assumptions:-

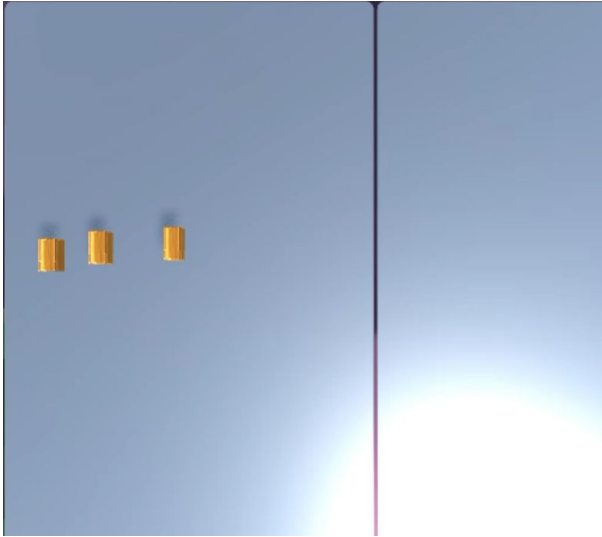
- 1) Line :- Containable object selected? -> No need for target position otherwise,
Please separately provide target location by another line.
- 2) Curve :- Release mouse on each object, Order of selection decide order of stacking.
- 3) Circle :- Center Of Object should be inside Circle.



Sample Video

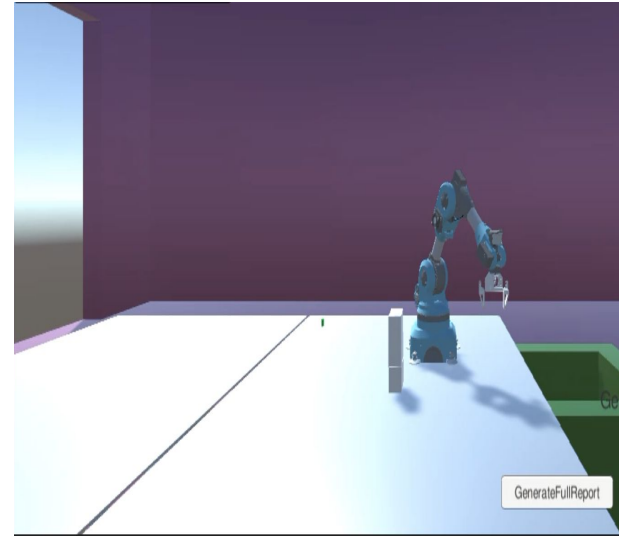
Scene: Cubes

Start State



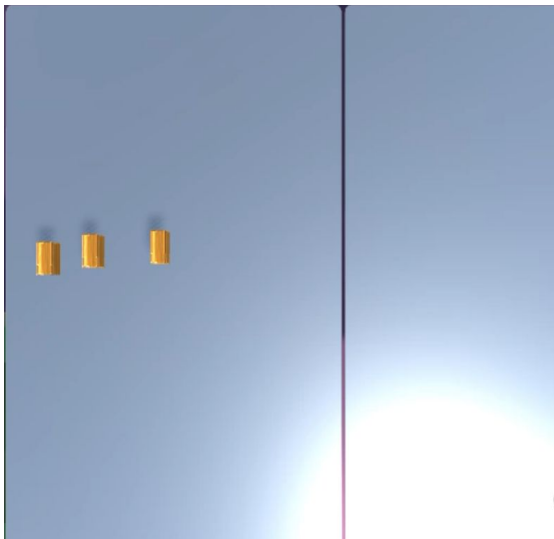
Stack the cubes.

Goal State

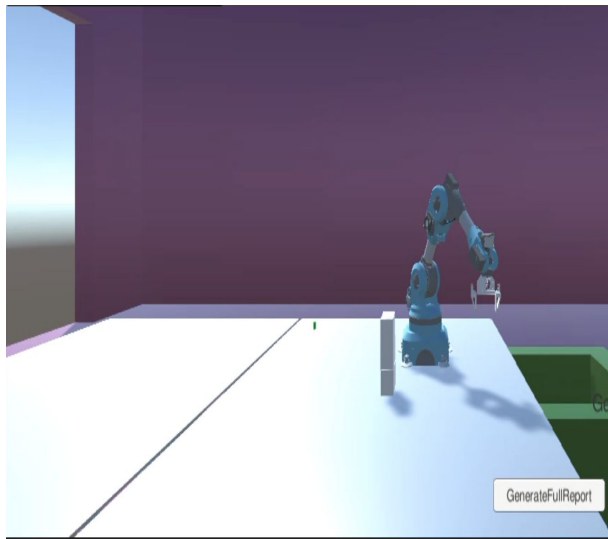


Scene:Cubes

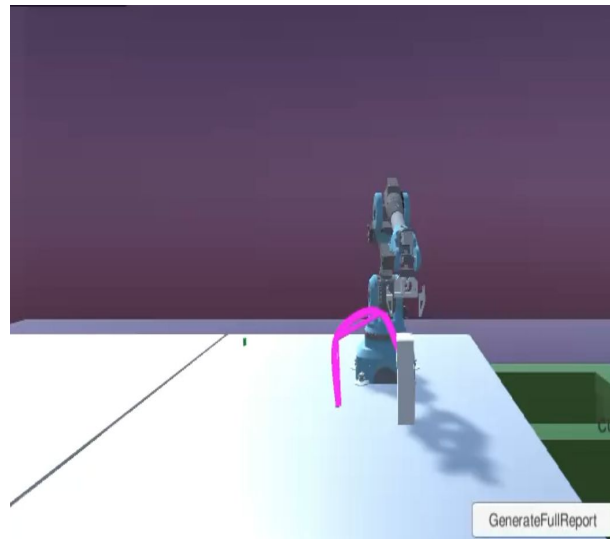
Start State



Intermediate



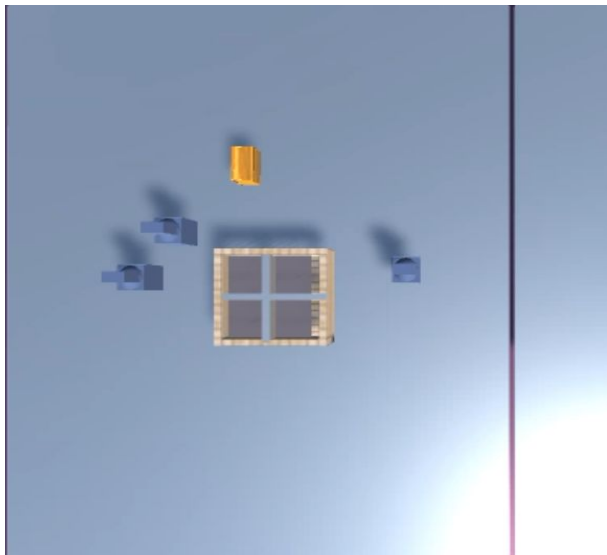
Goal State



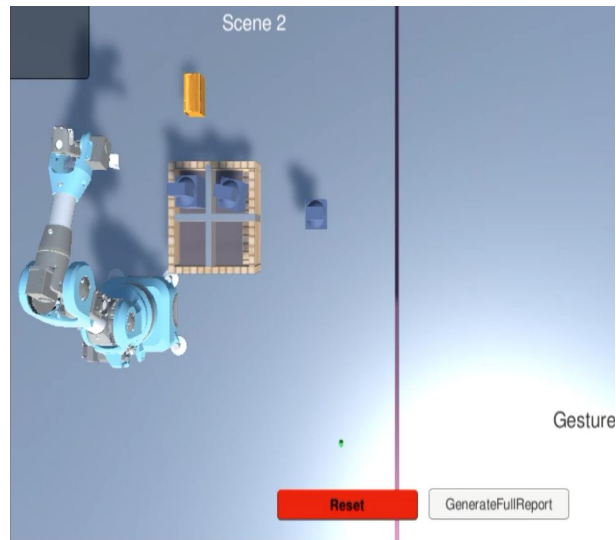
Stack the cubes one over other then again restack them at other location.

Scene: Bottles with CanHolder and Cube

Start State



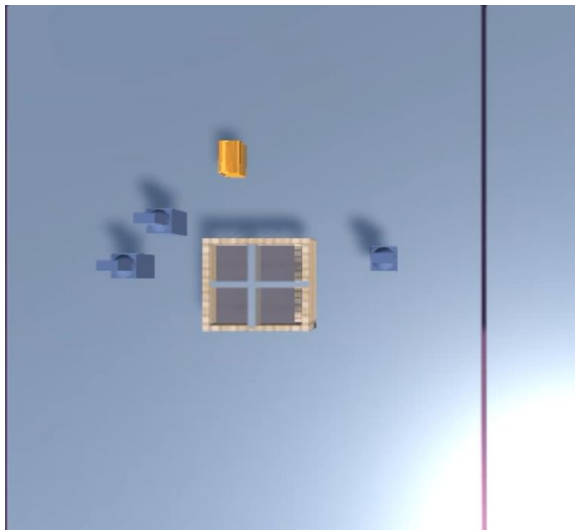
Goal State



Put bottles in Canplaceholder.

Scene: Bottles with CanHolder and Cube

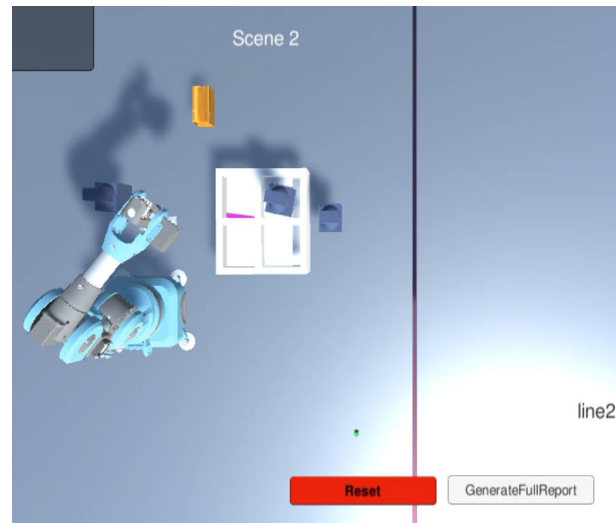
Start State



Intermediate



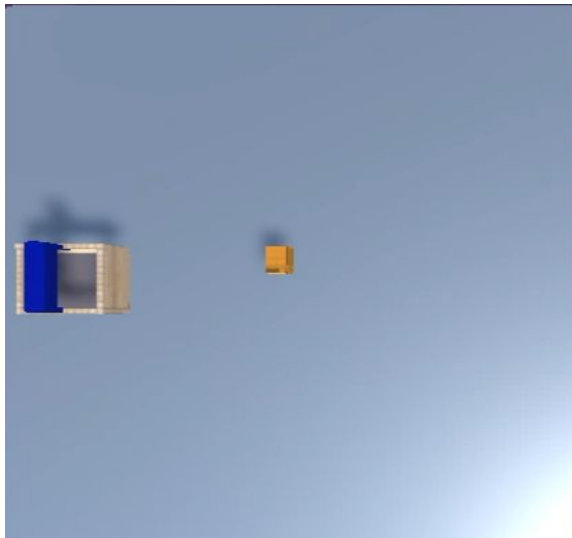
Goal State



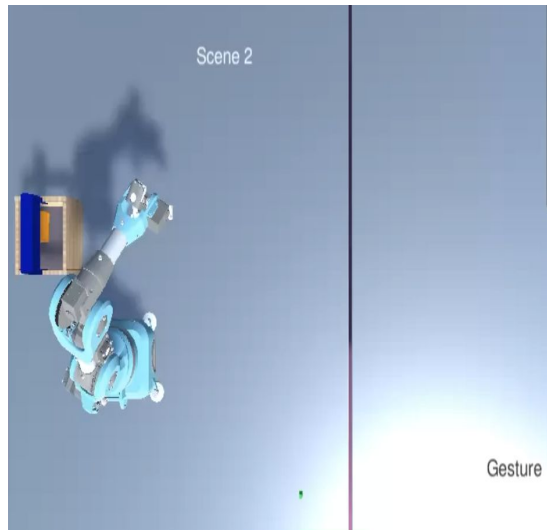
Put bottles in canplaceholder then remove one bottle from canplaceholder and push the holder in x direction.

Scene: Basket and Cube

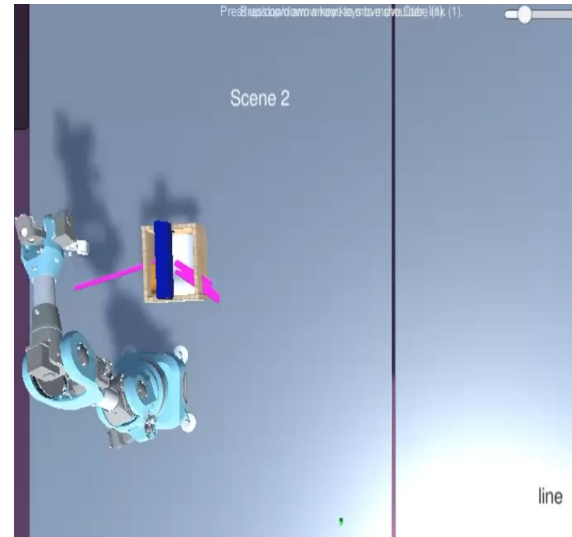
Start State



Intermediate



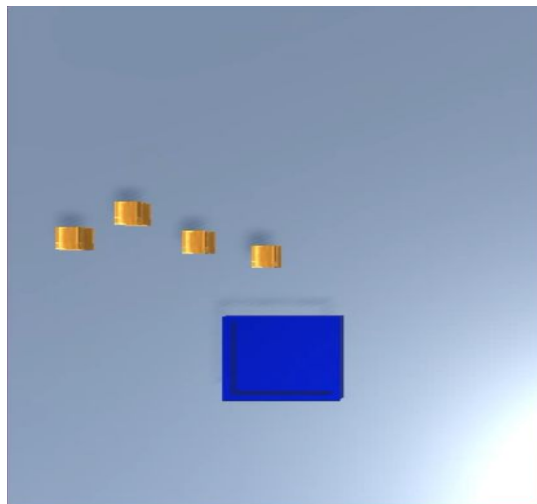
Goal State



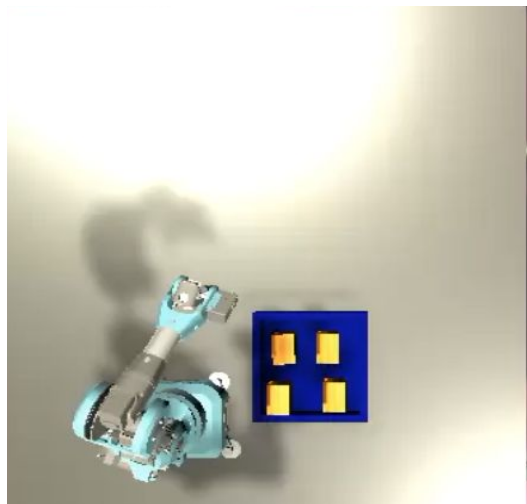
Put cube in a basket then move the basket.

Scene: Tray and Cubes

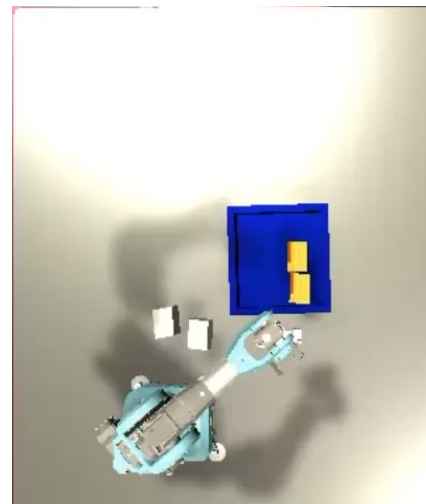
Start State



Intermediate



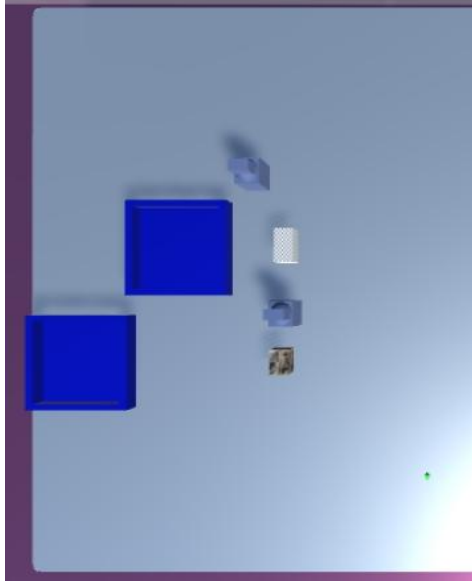
Goal State



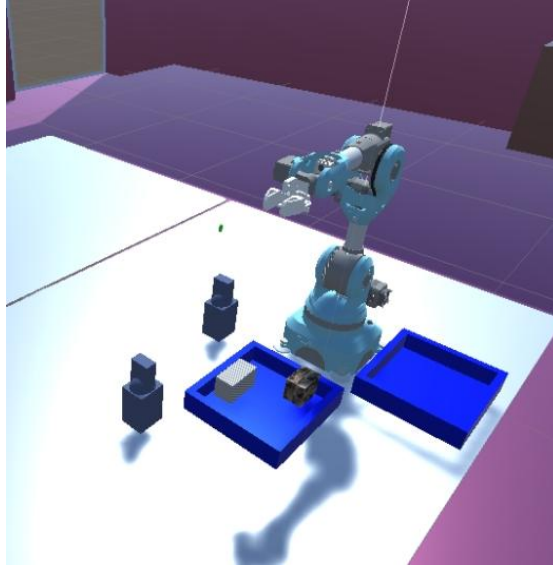
Place Cubes on tray then remove some of them and place to another location, Now push the cube in z-direction.

Scene: Composition of Two Tray and Cubes

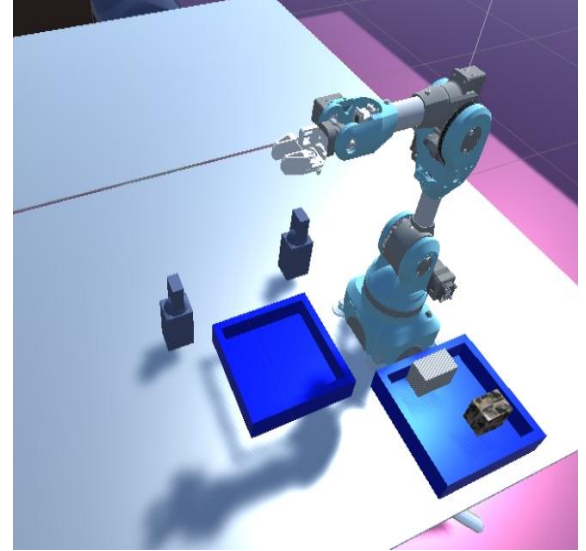
Start State



Intermediate



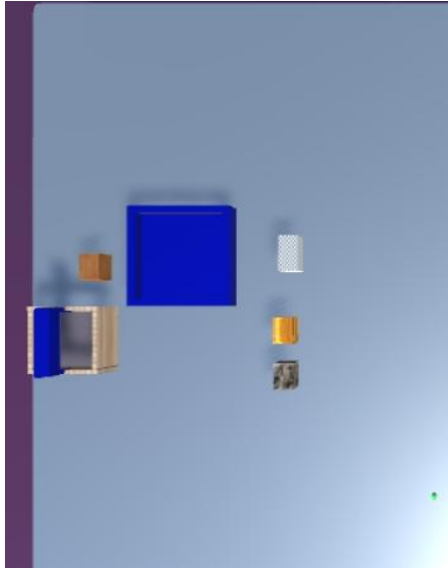
Goal State



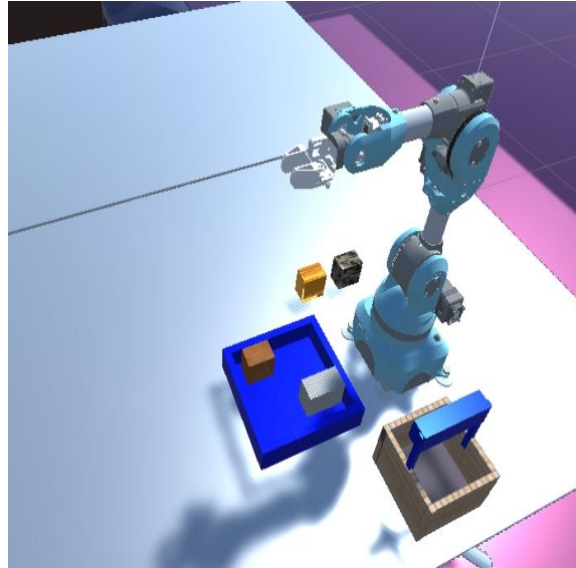
Place Cubes on tray then remove some of them and place onto other tray.

Scene: Composition of Tray , basket and Cubes

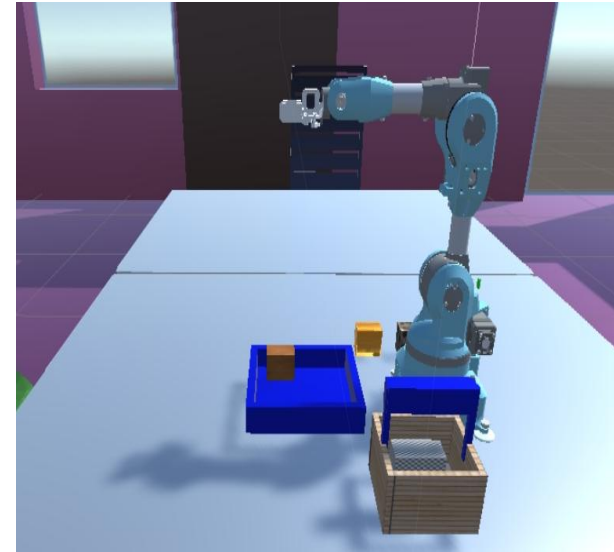
Start State



Intermediate



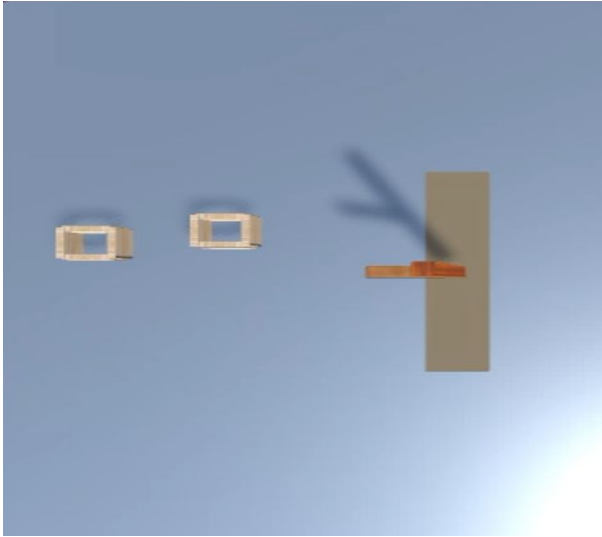
Goal State



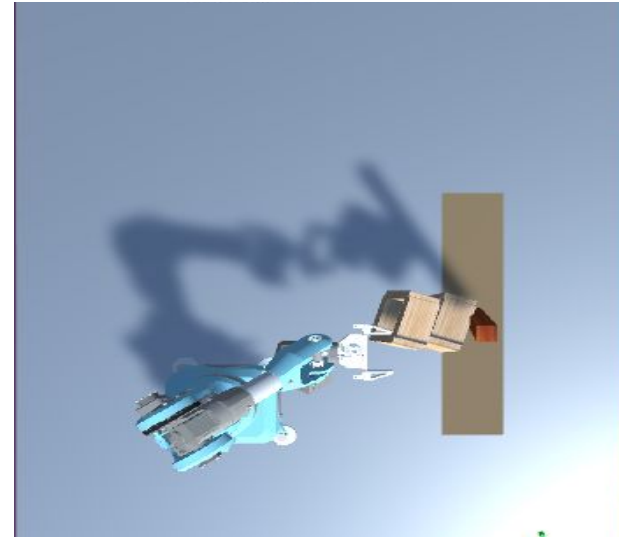
Place Cubes on tray then remove some of them and place into basket.

Scene: Hanger and Hollow Cubes

Start State



Goal State



Hang the hollow cubes on Hanger.