This lecture will be recorded

064-0026-00L: COMPAS II

Introduction to Computational Methods for Digital Fabrication in Architecture

slides and code

https://`tiny.cc/compas-ii`

Relays changed

1100 Started Cosine Tape (Sine c

1525 Started Multy Adder Test.

1545

Relay #70
(moth) in re

First actual case of bug

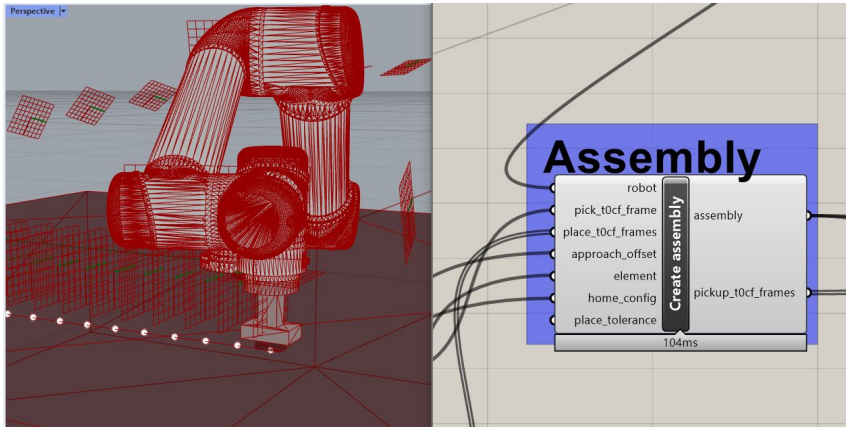
1630 Arctangent started.

1700 closed down.

```
conda env update --file environment.yml  --prune
```

Review of last lecture assignment

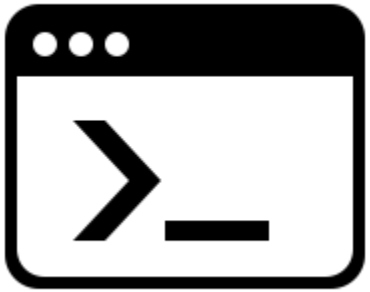
- Building up on the experience of the assignment 04, explore the network-based process
- Using `07_pick_and_place_graph.ghx`, plan pickup trajectory and at least 8 elements
- Store the full assembly to a file called `assembly.json` using the provided serialization



Unclear assignment goals?

How to show different elements of the assembly?

Explore **assembly sequencing** and dissect the pick and place exercise



`docker-compose up -d`

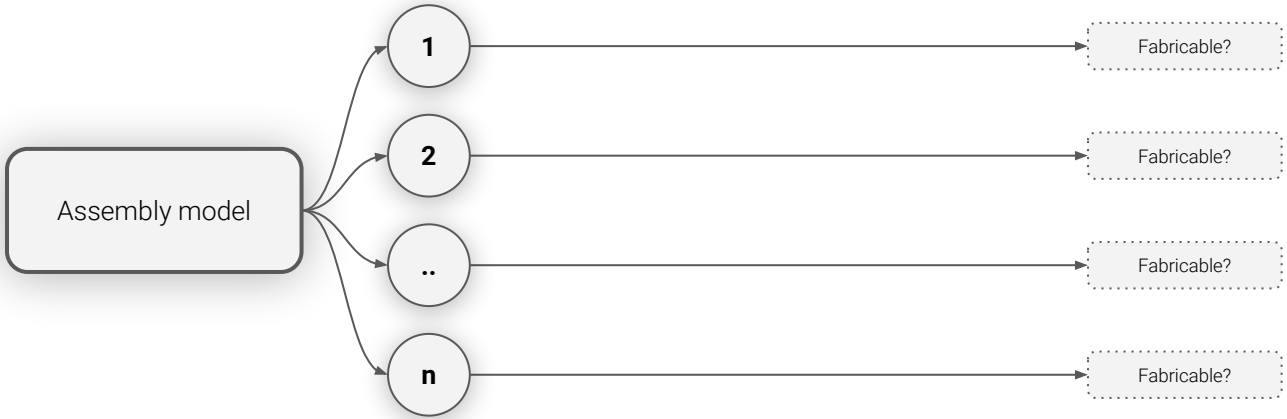
Right-click → Compose Up

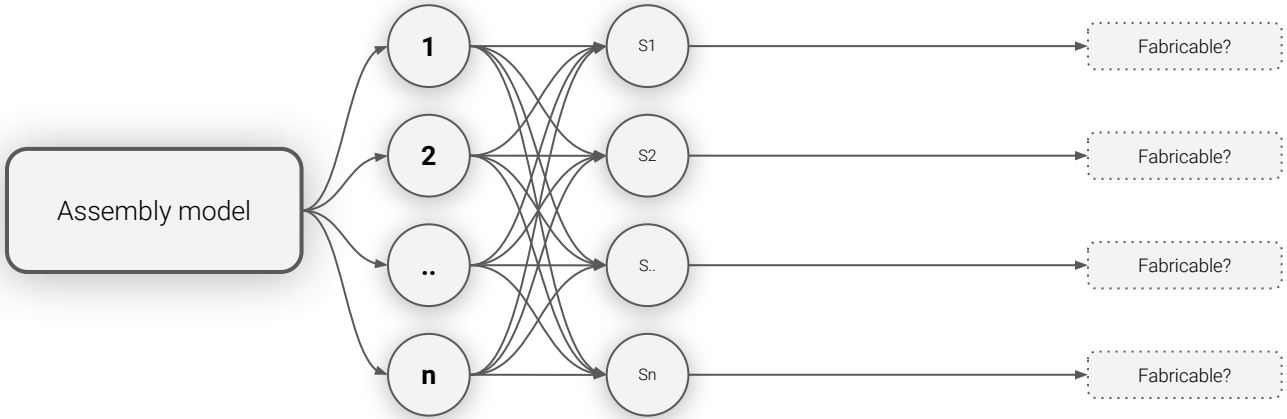
`docker/ur5-planner`

Lightweight MoveIt UR5 planner without any user interface

`docker/moveit`

MoveIt UR5 planner with user interface via browser (noVNC)

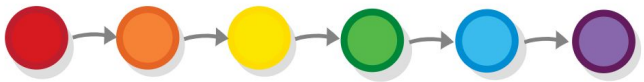

Assembly model
1
2
..
n
Fabricable?
Fabricable?
Fabricable?
Fabricable?


Assembly model
1
2
..
n
S1
S2
S..
Sn
Fabricable?
Fabricable?
Fabricable?
Fabricable?

Sequence types

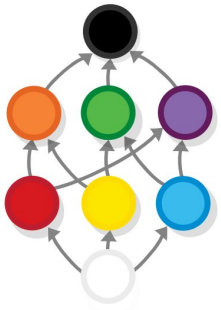
Total orders (fully linear sequences)

- Simple to describe
- Work for simple processes



Partial orders (e.g. dependency graph).

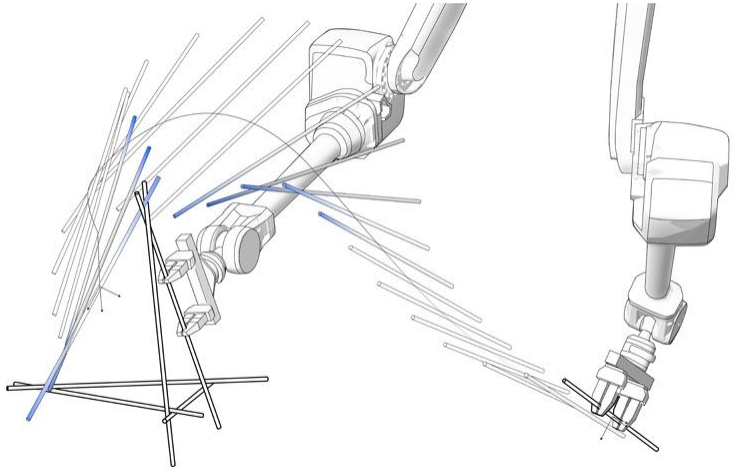
- Allow to express more advanced process (e.g. multiple robots in parallel)
- More involved to describe
- Broader selection of algorithms available



Impact of building sequence

Sequence affects fabricability in multiple ways:

- Stability during fabrication
- Tolerance build-up
- Robotic accessibility
- Material behavior



Let’s dissect the assembly exercise!

Next week

- No assignment due next week.
- Prepare your computer for COMPAS RRC exercises:
  - Install ABB RobotStudio
  - Explore **getting started** repo: https://github.com/compas-rrc/compas_rrc_start
  - Unpack the `pack&go` file (`COMPAS_RRC_IRB-910SC-3_0.65.rspag`)
- Ask for help if needed: Slack, Forum, Office Hours (Fridays, request via Slack)
- Next lecture:
  - Robot control with COMPAS RRC

Thanks!