

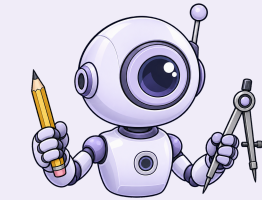
User Input

Text Prompt

"A benchtop monocular laboratory microscope with a tilting tube, rotating objective turret, adjustable stage, and focus knobs."

OR

Reference Image



Design Agent

Requirement Understanding

Blueprint

Self-check ✓

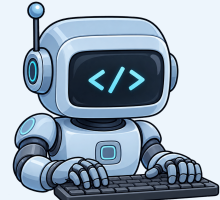
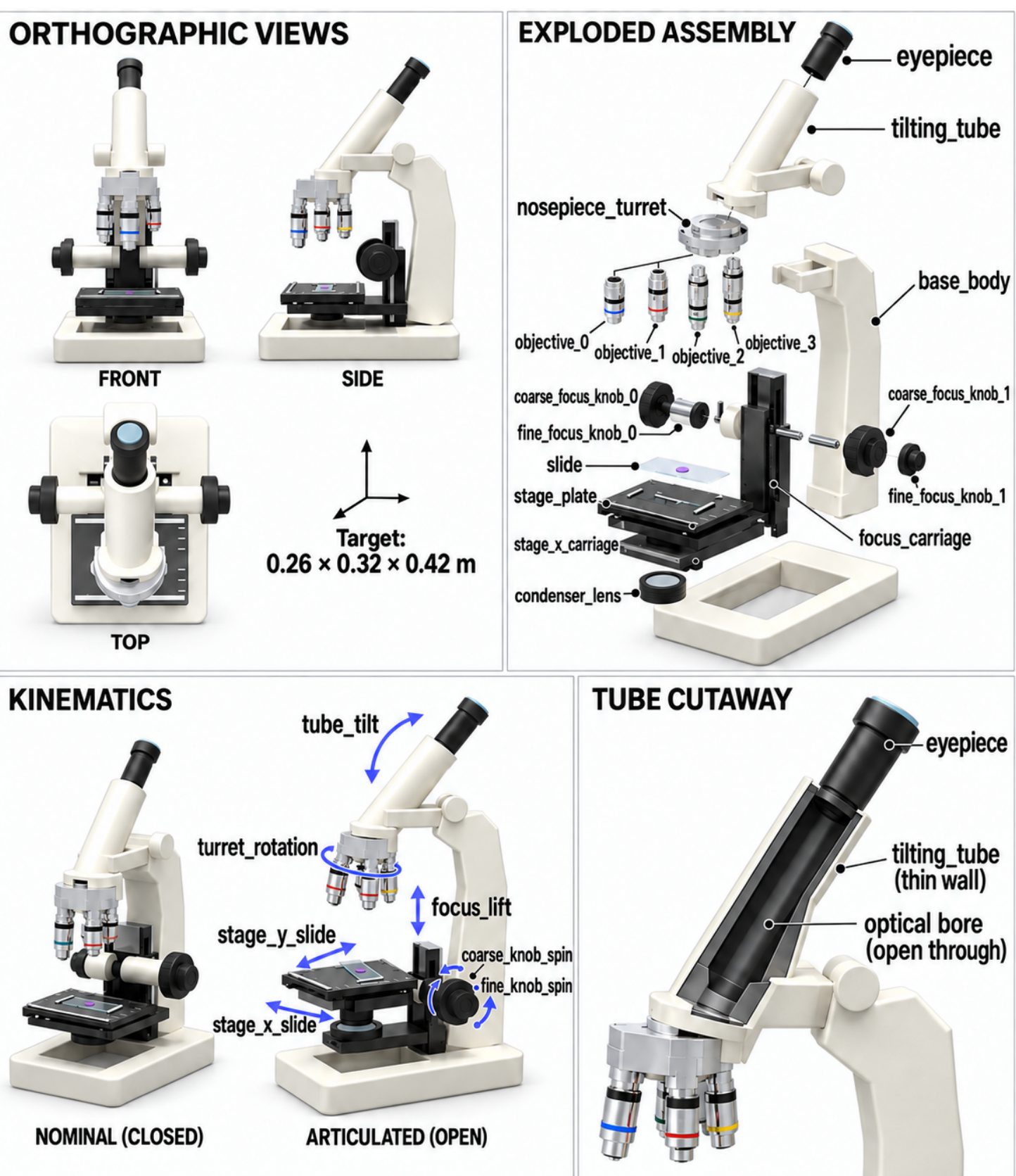
Parts: stand, tube, stage, ...

Joints: tilt, rotation, slides, ...

Functional constraints,...

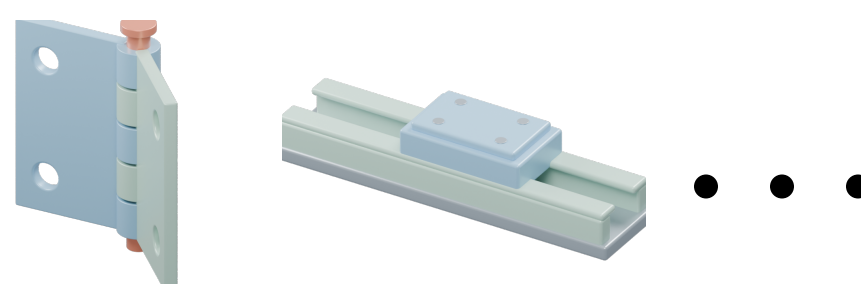
Design Board

Views · Assembly · Motion · Cutaway



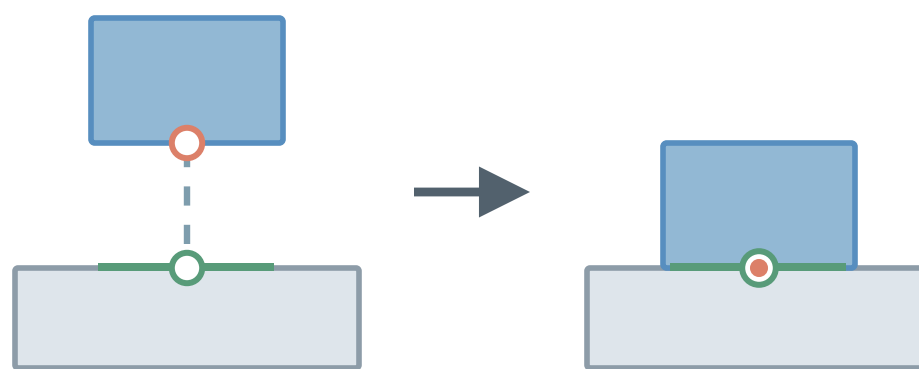
Coding Agent

Standard parts



Hinge Slide rail

Anchor placement



model.py



Edit program

Execute

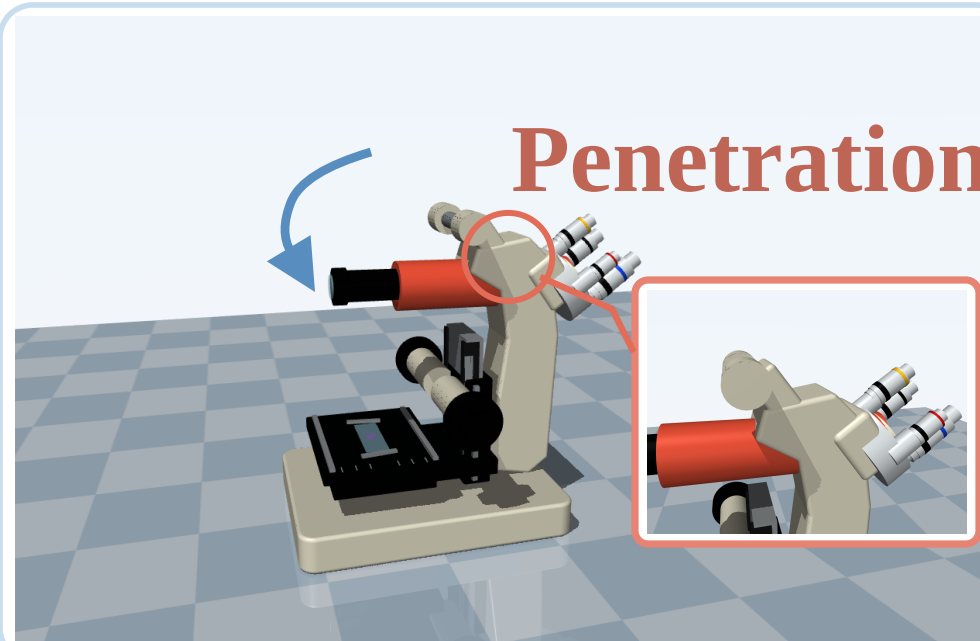
Render / inspect

Revise

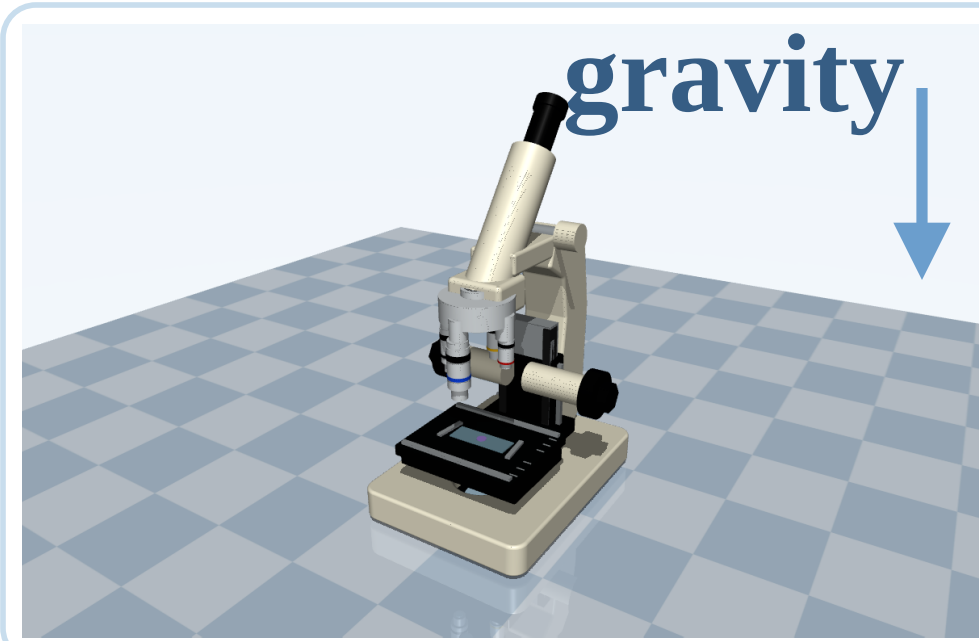
Physics report

Scores + Issues

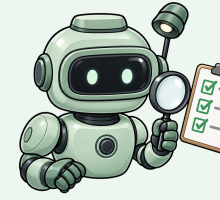
Physical Validation



Collision under Motion

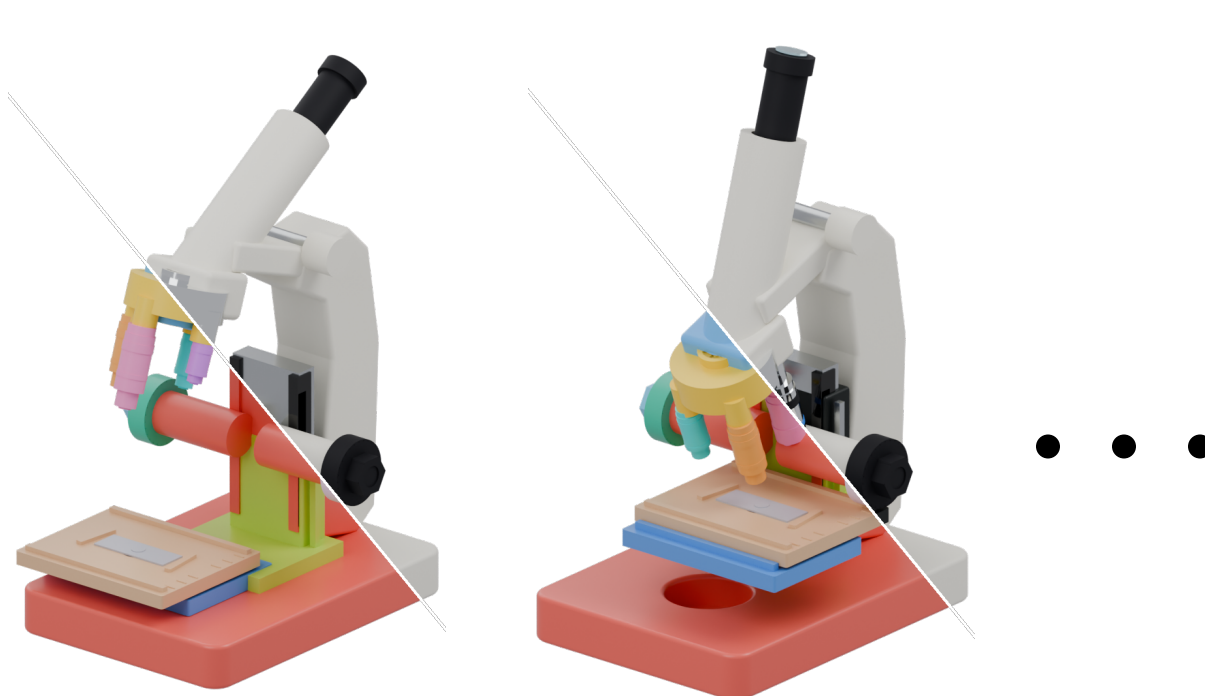


Stability under Gravity

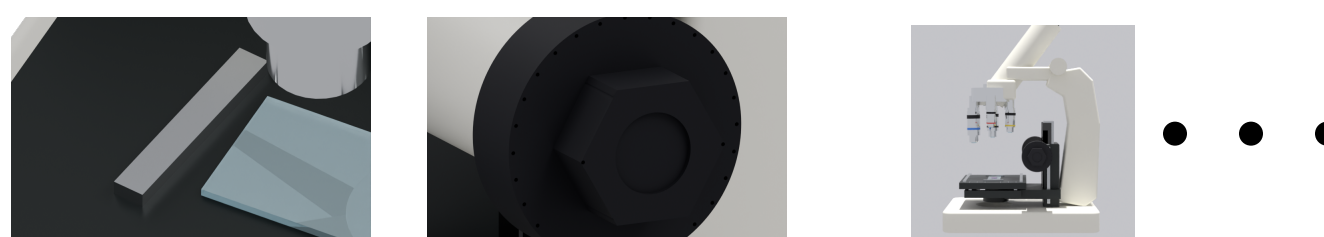


Review Agent

Active Review



RGB + segmentation



Detail Inspection

Pose Inspect Test

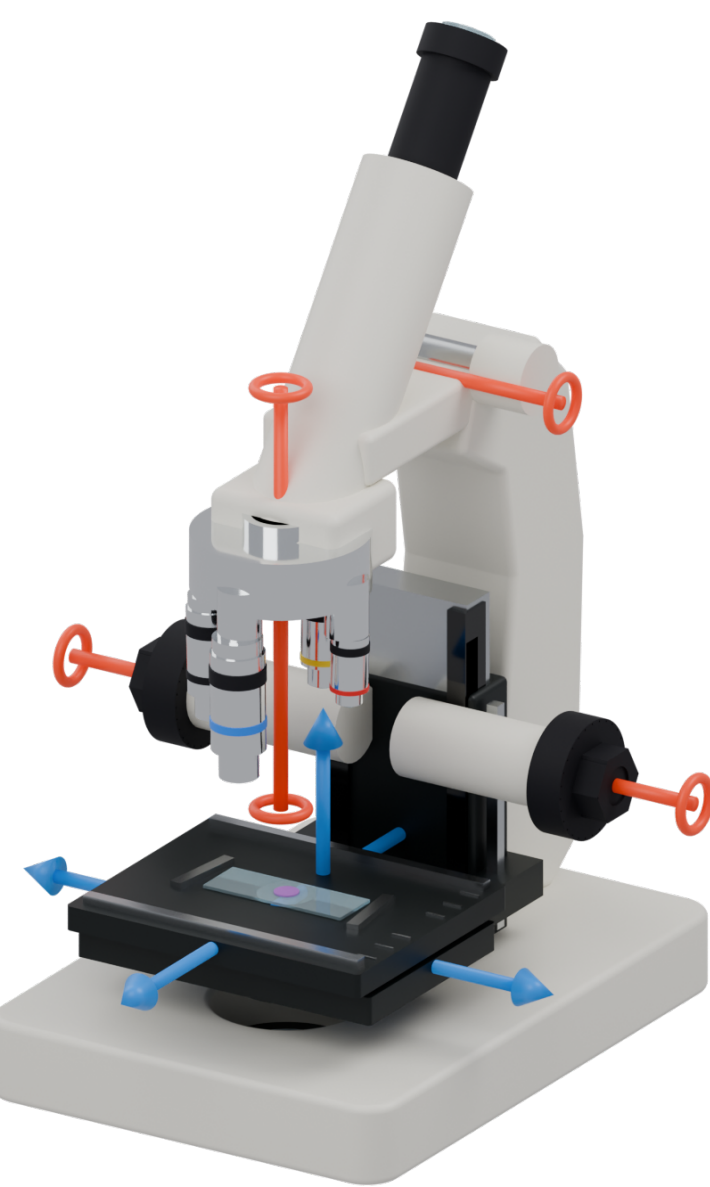
Review Rubric

- ✓ Proportion fidelity
- ✓ Part decomposition
- ✓ Contacts & clearances
- ✓ Kinematics
- ✓ Reference parity
- ✓ Material finish

Scores + Issues

Final Asset Package

Articulated Object



Physics

- Part mass
- Part materials
- Joint damping

...

Action Annotations

- Target link
- Target joint
- Contact elements
- Success criterion