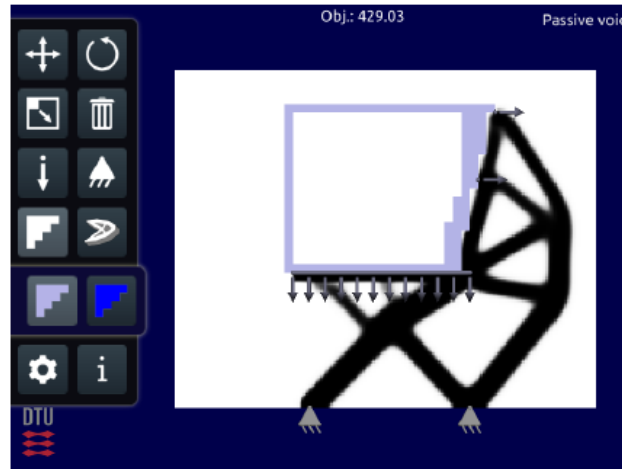
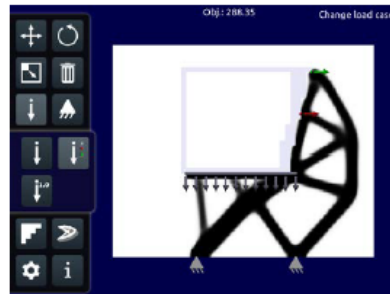


Topology Optimization (TO) by distribution of isotropic material

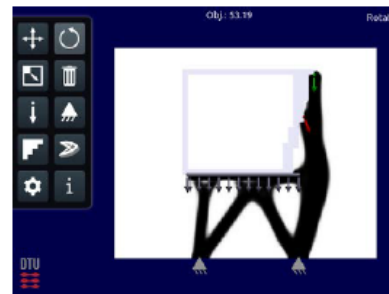
This tutorial is intended as inspiration on how to design a chair with the TopOpt app.



Example 1: The chair design is constructed using a single load case with the following settings: The downward "seat" load is 2.0 times larger than the two right oriented point loads. The volume fraction is set to 0.16 and an passive void domain is included to keep the seat free of material.



Example 2: Effect of making each load a separate load case.



Example 3: Effect of changing the direction of the load cases.

[2D interactive TopOpt app for handheld devices and web](https://www.topopt.mek.dtu.dk/apps-and-software)

<https://www.topopt.mek.dtu.dk/apps-and-software>



Homework One: TO program for chair

1. Based on the 99-line MATLAB code given, to program a new MATLAB code for the Topology Optimization of a 2D chair
2. As there is no detailed specification in the requirement, NO two submissions should look the same!!!
3. Submission deadline: 1 Mar 2023, 23:59pm.
4. Each submission contains: (1) MATLAB source code; (2) User instruction no more than half-page of A4 paper (12pts Times New Roman)
5. Please submit in softcopy directly to:
ycfeng@mae.cuhk.edu.hk (FENG Yuncong, TA-in-charge)
6. Marking scheme: total 20 points of the final score. (1) it can run and generate results – 12 points; (2) less than 5 mins to finish – 8 points; (3) late submission – every day of delay – minus 5 points; (4) identical submissions – minus 12 for each