

DESIGNER DESK

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Late hours:14 hr

Remain Hours:82 hr

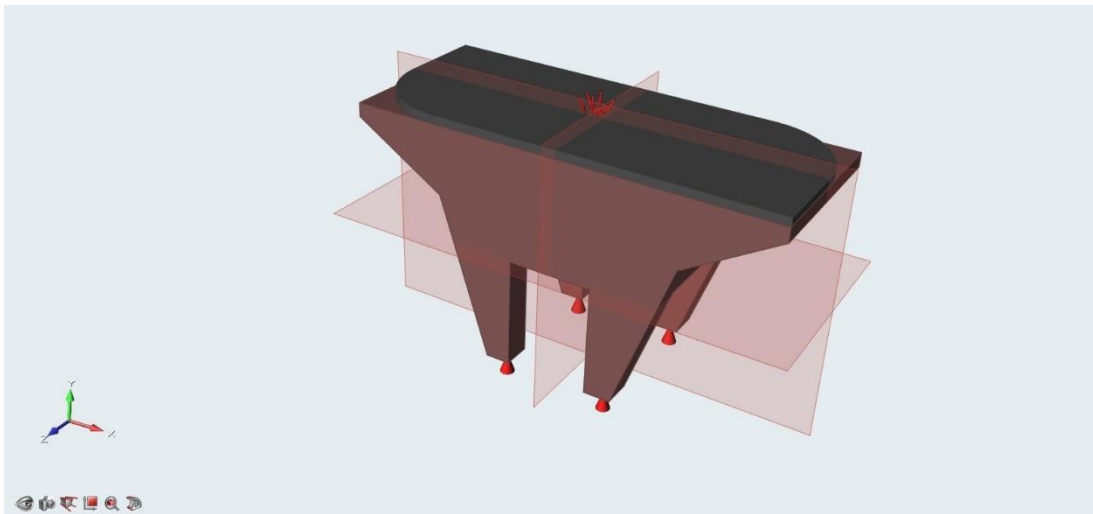


Desk

Functional Requirements:

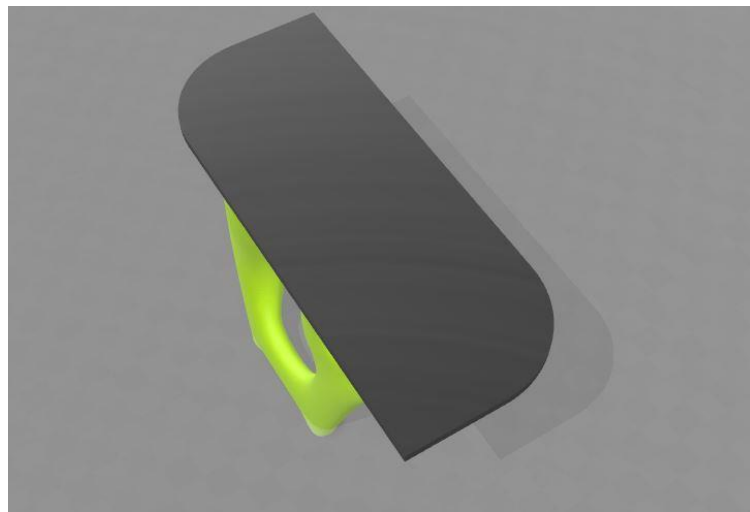
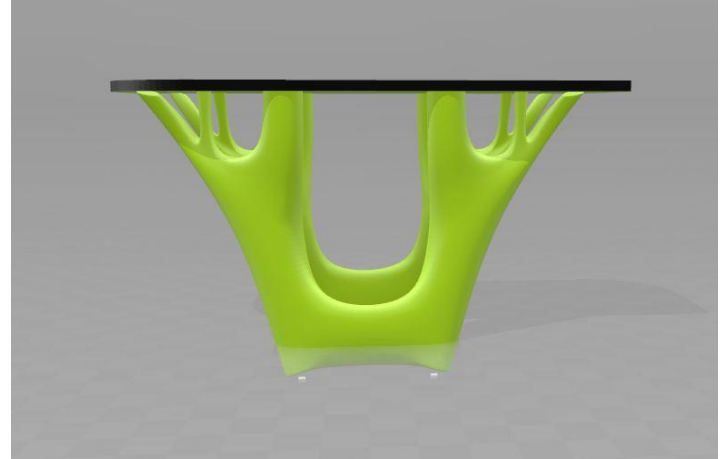
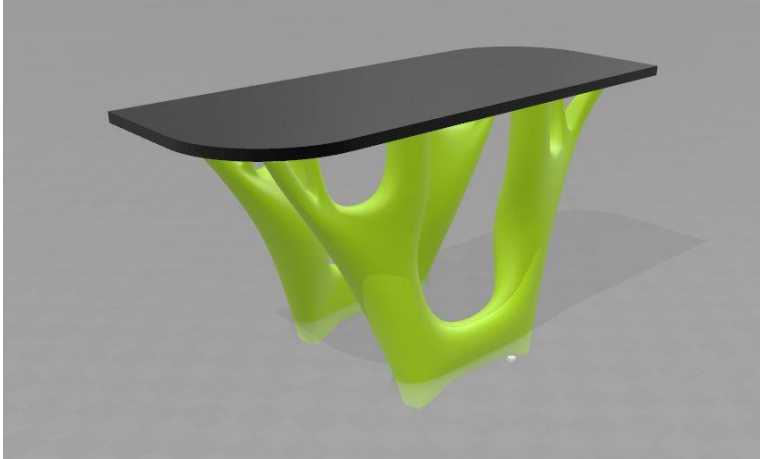
- Desk should withstand the weights of object and itself.
- Desk should be of the dimensions 60x24x30.
- Desk should be ergonomically and aesthetically good.

Desk Design Space and Loads:



- The above figure shows the design space of table.
- The red arrows show the constrains.
- The base is constrained in all directions.
- Pressure corresponding to its own weight plus some objects is applied om the top surface.

Final Design:



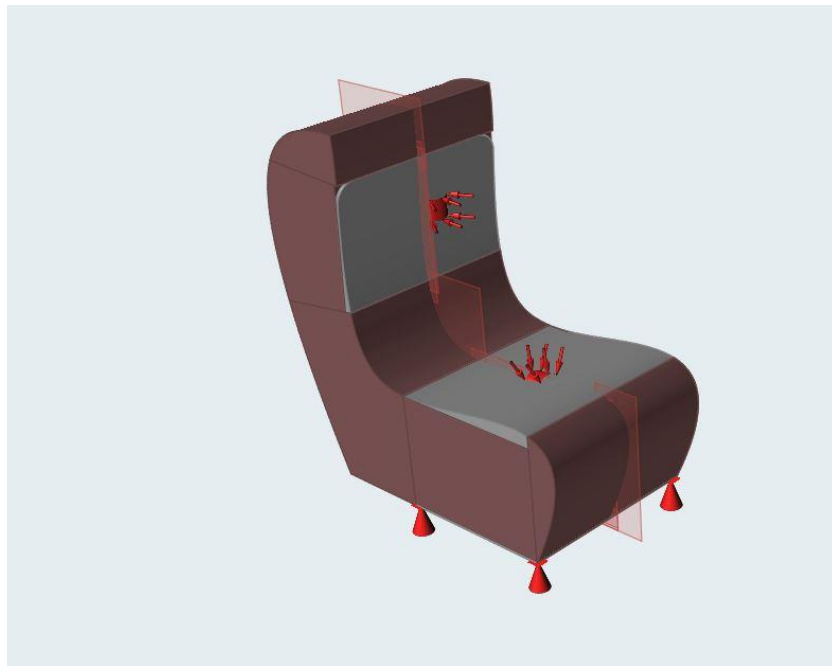
- The final design is show in above figure.
- The weight is 25% of original mass.
- The weight of table is 111kg

Chair

Functional Requirements:

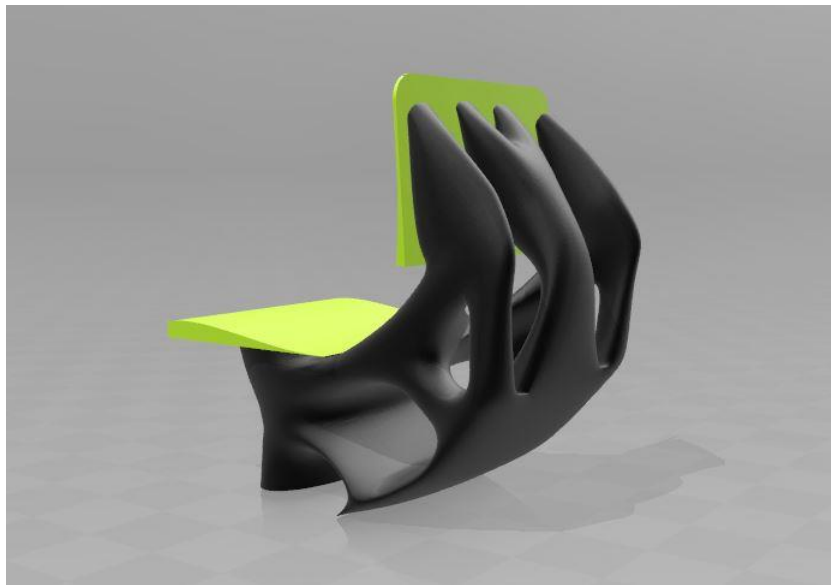
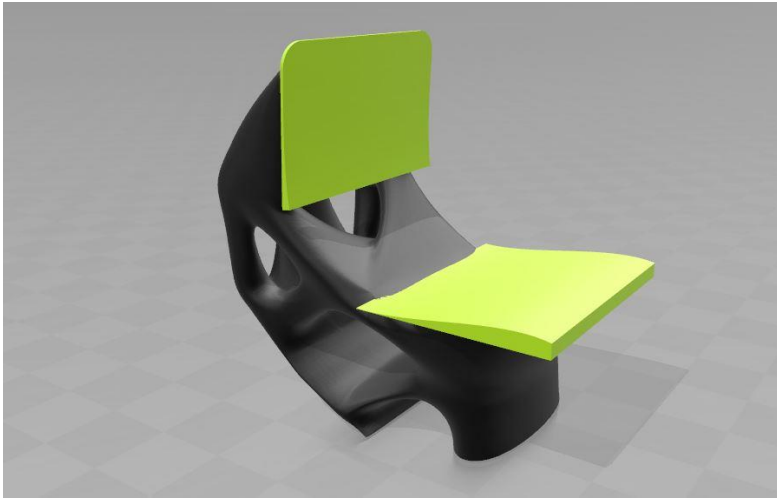
- Chair should be comfortable.
- Chair should bear the weight of a person (120kg).
- Chair should be ergonomically good.

Design Space and Loads:



- The above figure shows design space of the table.
- Red arrow show constrains.
- The base is fixed supported.
- The sitting space is applied with pressure equivalent to 120 kg.
- The back is applied with pressure equivalent to 30kg.

Final Design:



- The weight of the above chair is 25% of the original mass.
- The weight of optimized chair is 24 kg.