Computational Design Solutions

IAP Workshop

Rhinoceros® Visual Basics

Exercise 1

In this exercise you will use design computing as your process for designing a bridge. This will prepare you for using Rhinoceros to design and fabricate your design.

We provide you with the code for creating the initial curves. The curves provided are two straight lines. You are welcome to modify the points for generating more complex curves if time permits. The aim is to get you familiar with the process of design using an abstract computational process and the importance of manipulating data within software. You will be responsible for fabricating your design using digital tools in a future assignment; therefore, you should think of solving your structure as you design. As you design it is recommended that you to think of digitally fabricating your bridge using code as your problem solver.

TASKS

You will construct a bridge from two curves. Your bridge will span 50'-0" in length. You will be using the "your_name_bridge.rvb" snippet of code for solving your design intent. The code consists of two functions: *function makeCruves( )* and *function makeBridge(c1, c2).* You are responsible for modifying:

function makeBridge(c1, c2)

This function accepts two parameters:
c1: curve one
c2: curve two.
These curves have already been created for you. You will use them as end supports for your bridge. Between the two supports you can build any structure you would like using Rhinoceros internal methods. See:
Help → *Plug-ins* → *RhinoScript* for a list of internal Rhino methods.

HINT

Keep your initial design as simple as possible until you a comfortable enough to introduce design complexity.

DELIVERABLES

You will rename your file with your proper name, replacing "your_name" with your "firstname_lastname"_bridge.rvb. Send your file to snavely@mit.edu with "BRIDGE DESIGN" in the subject heading.