Current work:

* Change all floats to doubles
* Change all double pairs to vector2
* Change the creation direction matrix to be random instead of in order
* Have a random number of panels per creation
* Columns aren’t created properly
* Run multiple samples at once
* Randomise the generations
* Get deflections of node
* Sum the score of the run
* Decide on best in generation
* Add to this word document
* Label code / rename methods for clarity
* Delete all method doesn’t delete all? Doesn’t work on bars
* Variable generation sizes
* Creating panel material
* Column material

Model Steps:

Create a new file so all old data is cleared out. Any existing objects mess with the panel creation due to the strange way in which robot numbers items and allows you to recreate objects which already “exist”.

Use the randomised floor plan generator to make the building shape. This creates panels on a 10x10 grid of nodes, which leads to be a 9x9 grid of panels. The panels are created in 2x2m squares to more accurately simulate the size of a room.

The floor plans are copied in relation to how many models want to be created. This then copies the panels that many times in the x direction then the y direction.

The first floor plan is then converted into a method which the computer can use as inputs. Taking everyone location with and without a node. These are turned into 1 or 0.

This input is then fed into NN models which are created. These use the inputs to determine the outputs of the column locations.

The columns are then created based on the output of the NN.

After this a calculation is run on the whole model. This is to get the deflections at each node.

When the deflections have been received they are calculated into a score which grades each model, this is based on the number of columns and the deflections.

The NN with the best score is then saved and passed down to the next generation of NN.

The whole model repeats from here.