The Truss class is used for loading and analyzing a 2D truss using the method of joints.

It has 4 methods: __init__, PlotGeometry, SolveTruss, __repr__

init takes 3 inputs: an instance of the class, joints files and beams files. It coverts these files to arrays suitable for use by other methods and it also extracts some relevant data such as number of joints, beams and rigid supports from the files. It has no return.

PlotGeometry takes 2 inputs: an instance of the class and a plot filename. It creates a matplotlib plot of the 2D truss geometry and saves it with the plot filename given. It has no return.

SolveTruss takes 1 input: an instance of the class. It analyzes the truss and solves for the reaction forces in each beam. It uses a csr matrix to store the equations as a sparse matrix. It has no return.

repr takes 1 input: an instance of the class. It returns a string representation of the reaction forces in each beam.