**Executing the code:**

The main file can be run with MATLAB version 2014a. The only necessary files for running main.m are found in the folder SupportingFunctions.

These files implement the model that is perturbed with the lateral cannon. Further, changing the excitatory and inhibitory feedback vectors at the top of the script scan feedback parameters. The for-loop scans over the values in the synaptic strengths vector. The numbering convention for the neural system, feedback, and legs can be seen in the NamingDiagram.pdf.

**Output of the code:**

There are two outputs of this example file: the workspace is saved into a .mat MATLAB data file and a plot is produced. The plot shows the center of mass trajectory of the cockroach with a clear perturbation and change of heading. The workspace is saved in MATLAB’s data file format .mat. The data in the workspace can be used to produce other visualizations or compare against input parameter changes.