Explanation of Ten Models

Overall, there are two kinds of models in this model package:

- The replicate model
- The improved model

Please see Brown and Robinson (2006)'s paper (Brown, D.G. and Robinson, D.T., 2006. Effects of heterogeneity in residential preferences on an agent-based model of urban sprawl. *Ecology and society*, *11*(1).) for details of the original model.

In Brown and Robinson (2006)'s paper, there is a slight difference between their conceptual model and the implemented model. The conceptual model normalized three preference weights while the implemented model did not.

Therefore, we did replications of both the conceptual and the implemented model. Specifically, the replicated model is a replication of the implemented model while the improved model is a replication of the conceptual model. In each version of the model, there are 5 experiment settings:

- Uniform Case
- Homogeneous Case
- Normal Case
- Group Means Case
- Group Normals Case

To simplify the model building, we separate each of the replicate and the improved model into five smaller models. From the provided code, you can see that there are totally 10 models which represent different model versions and experiments. Here is what each model means:

- The replicate model:
    - Uniform Case: "Replicate_Uniform.nlogo"
    - Homogeneous Case: "Replicate_Homogeneous.nlogo"
    - Normal Case: "Replicate_Normal.nlogo"
    - Group Means Case: "Replicate_GroupMeans.nlogo"
    - Group Normals Case: "Replicate_GroupNormals.nlogo"
- The improved model:
    - Uniform Case: "Improved_Uniform.nlogo"
    - Homogeneous Case: "Improved_Homogeneous.nlogo"
    - Normal Case: "Improved_Normal.nlogo"
    - Group Means Case: "Improved_GroupMeans.nlogo"
    - Group Normals Case: "Improved_GroupNormals.nlogo"