Tutorial 3 – Additional Guidance

Think your way through the marriage model, step by step…

*(Run your model after each step to make sure there are no errors!)*

1. Read through the ODD description carefully.

*(To speed things up, you can skip “Partner Search & Marriage” until needed.)*

1. Try to work out what you are aiming for.  
   What is the final simulation supposed to look like?  
   *(The key information is in the “Entities, State Variables and Scales” section)*
2. Create a new NetLogo program with the standard structure.

In the Interface, create the appropriate buttons and set up the world appropriately.

1. Fill the turtles-own block with the necessary turtle variables.

*(Again, you should look at the “Entities, State Variables and Scales” section)*

*HINT: It will be useful to include variables to record a turtle’s spouse, mother and father. Variables can take a turtle (or patch, or agentset) as a value, so this is perfectly valid.*

1. Also consider what global variables might be useful and list these in the globals block. However, you may find that you need to go back later and add global variables that you did not think of.
2. Create procedures for the necessary processes in the model.  
   *(See the “Process, Overview and Scheduling Section”. Don’t add any code to the procedures yet, just leave them blank.)*

Should the procedures be in turtle context or observer context?

1. Call the procedures in the “run” procedure in the correct order.
2. Create the initial population of turtles as described in the “Initialisation” section. Assign their variables correctly. Colour them by gender.
3. Which of the procedures should be the easiest to code?

Could it be broken into two parts? Tackle each part separately.

Update a turtle’s location if necessary at the end of the procedure.  
*(i.e. if a variable changes that determines the turtle’s location)*

1. Which of the procedures will be next easiest to code?

Reporters can return agentsets (groups of agents).  
Would it help to create a reporter for a particular group of agents here? Also, look at the list of primitives on the task sheet. Do you understand which of these will be most important for this procedure?

1. You will not be able to test whether this procedure is working unless some turtles are married. For now, set a turtle’s marital status at random. You can go back and make this more sophisticated later on.
2. The hardest part of this procedure is correctly setting a child’s social angle. Avoid this difficulty by setting the social angle randomly, and set all other variables correctly. Get this version of the model working before trying to use the correct approach to setting the new social angle.
3. The final procedure is the most challenging. You will need to read the “Partner Search & Marriage” section carefully. Try to break it down into separate parts that you can code one-by-one (for example, you could write a reporter to return the potential partners for a turtle) and check each one before you go any further. This one is a real challenge!
4. The final thing you do should be to create a plot to track mean social pressure over time.