Software you need to install

1. NetBeans IDE
2. Java development kit (JDK)
3. FreeMat

All three are free software. 1 often comes bundled with 2.
3 is an open source clone of MATLAB. You can also use MATLAB instead. But in this case you might not be able to use the plotting routines described below. You have to open the .m-files containing the simulation results (and plot the content) manually.

Run your first simulation

1. Start *NetBeans*
2. Click on *File >> Open project*
   navigate to the ABC-Simulation program folder and open it
3. Click on *Run Project* in the navigation bar or hit F5
   The program should start running and spit out information about the development of some aggregate variables over time in the Output window
4. When it says "*BUILD SUCCESSFUL (total time: ?? seconds)"* the simulation has finished. In your project folder you will find a new folder now containing all the results of that simulation. Its name might be "OutputFolder_1" for example.

Plot the results

1. Start FreeMat
2. Navigate to the folder that contains your simulation results (normally: OutputFolder_1)
3. The java simulation should have copied some plotting routines into this folder that you can easily call
4. call the command
   plot_results_article(1, 1000,2900)
   to plot figures with the just simulated data

- The plotting routines rely on script I have written myself: *corr.m* and *skewness.m*
  If *FreeMat* can not find these scripts, the plotting routines will not finish successfully. To avoid this error you need to copy the two scripts into any folder of your choice. Afterwards, click on *Tools --> Path Tool* in *FreeMat*, add the Path of the two scripts. Click *Save* and *Done*. Now the plotting routines should run successfully.

Make your first changes in the simulation

You will probably be most interested in changing the behavior of the agents. You can get a quick idea on how to do this by doing the following:

1. Assuming you have opened the simulation program in NetBeans, go to the *Projects window* (if you can't find it, hit CTRL+1 // STRG+1) and navigate to *source packages >> program*. You will see several .java files that include the class definitions we need.
2. Assuming you want to change a simple parameter, double click on *simulation.java* to open it in the editor.
3. Search for the line
   double HHpar_ResWageChange_Unemployed = 0.9;
4. Change the value to 0.99 so that the line reads
   double HHpar_ResWageChange_Unemployed = 0.99;
5. If you run the simulation again, you will overwrite your previous results. So before hitting *Run Project* you should open *Main.java* and search for the line
   Folder_ = "OutputFolder_" + Seed_ ;
   change this line to
   Folder_ = "OutputFolder_" + Seed_ + "_WageResistence";
6. Click *Run Project*, navigate to the newly created folder and call
   *plot_results_article(**10**, 1000,2900)*
7. You should now see new figures (numbered 10-17) that display the aggregate dynamics for the new parameterization. You can compare them to figures (1-8) and will see that they are significantly different.

- If you want to change the agents behavior more fundamentally, you have to open *Firm.java* or *Household.java* in step 2. The most interesting part is the planning behavior of agents. If you want to change it, you have to navigate to the procedure
  ```
  void Plan_Current_Month(int Month_) {
     ......
  }
  ```
  and change the code there. according to your needs