**Instruction for a Major R Upgrade (new .x or higher)**

1. Download New R version (vY.x) & install;
2. Download New RTools version (RtoolsYx installer) & install; RTools changes every time such a major R upgrade occurs.
3. Open ‘JMLUtils’ in RStudio, under OLD R version (vY’.x’), load it (library(JMLUTILS)), and run the function ‘adm.savePkgLib()’.
   1. This will save the old (or currently installed) package list (not the actual packages, just their names!) in a folder called ‘RPkgUpdate’, the exact location of which varies from one of my computers to another.
   2. There is specific code for each of these computers, with the machine name and the folder location for that machine. Any new future computers will have to be added to the code for the ‘folderLocation’ function of JMLUtils.
4. Close RStudio, and reopen it; select the new R version from the Tools/Global Options menu. You will have to close RStudio yet again and reopen it for this new version to be operative.
5. With RStudio open and now running the new R version (vY.x), manually install the packages JMLUtils needs to be built. These are: tidyverse, roxygen2, and sna.
6. Open the JMLUtils project and rebuild it under R vY.x and using the new RTools appropriate for the same version.
7. Close RStudio, and open the R GUI for version vY.x.
8. Load JMLUtils (library(JMLUtils)).
9. Run the function JMLUtils::adm.restorePkgLib(). This function will then install all the packages you’d had for the previous version vY’.x’.
   1. It will take a while for al these packages to be re-installed, usually around 10 or 15 minutes.
   2. Once this process is complete, your new installation is ready to go.
10. If there any packages that have to be rebuilt from source in order to have the latest version installed, obtain the necessary source (e.g. by downloading it from Github), and build as required.
    1. This is sometimes desirable for RSiena, for example; I have handled this by keeping a source version forked from Github, which can be easily updated by doing a ‘pull’ to make sure it’s up to date, then building the pulled version.