

Testing R and MCSim

Dustin Kapraun, US EPA, 9/27/2019

1. Unzip the file "RMCSim_Package_Base.zip" to a folder on your C drive. For example, you could unzip to C:\Users\[username]\Documents to create a folder with the path "C:\Users\[username]\Documents\RMCSim_Package_Base".
2. Open RStudio.
3. Within RStudio, open the file "C:\...\RMCSim_Package_Base\RMCSim.R".
4. Go to the "Session" menu and select "Set Working Directory ->" and then "To source file location".
5. Select the button in the upper right corner of the text editor called "Source". This basically "runs" the file "RMCSim.R", which defines functions called "compile_model", "load_model", and "run_model". You should now have access to these functions in your R instance.
6. Within RStudio, open the file "C:\...\RMCSim_Package_Base\exp_decay_examples.R".
7. Run this file by selecting the "Source" button. Now you have access to all the demo functions in this file. These functions compile and run simulations for a simple exponential model. Try calling these functions one by one at the R command prompt in Rstudio:
 - a. Type "exp_compile()" at the command line and press "Enter". This compiles the MCSim model defined in the file "exponential.model". You will get error messages if some part of the installation didn't work.
 - b. Type "exp_decay_demo1()" at the command line and press "Enter". This will run a simulation using the simple exponential model defined in "exponential.model". You should see an output graph.
 - c. Type "exp_decay_demo2()" at the command line and press "Enter". This will run another simulation using the simple exponential model, but in this case some "input" variables will be given non-zero time-varying values. Examine the code that defines the functions "exp_decay_demo1" and "exp_decay_demo2" to identify the differences and their effects on the output.
8. If all this works, open the "pbpk_examples.R" file. Try calling the functions defined in that file one by one as described above in step 7.