

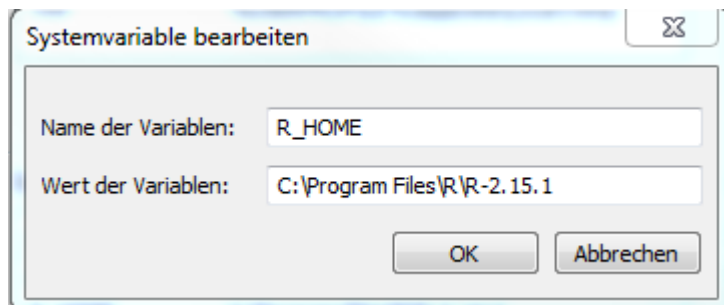
Installation of R-Extension (v1.0) on Windows 7 - 64 bit (and really use 64 bit) for NetLogo 5.0.2 and R 2.15.1

1. **Download and install R 2.15.1** (<http://cran.r-project.org/bin/windows/base/R-2.15.1-win.exe>), target directory of the installation: C:\Program Files\R\R-2.15.1, Selected components: User installation, Startup options: No

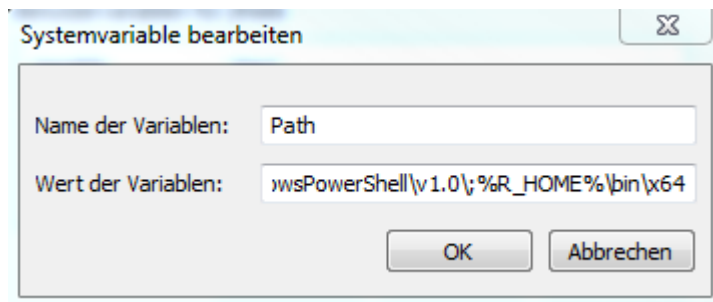
2. **Download and install NetLogo 5.0.2** (standard 32-bit bundled version with Java Runtime Environment) (<http://ccl.northwestern.edu/netlogo/5.0.2/NetLogo5.0.2Installer.exe>), Destination Directory of the installation: C:\Program Files (x86)\NetLogo 5.0.2

3. **Set environment variables for R:** an R.dll and R.exe should be found in C:\Program Files\R\R-2.15.1\bin\x64 (depends on the path in step 1),

Set at first the R_HOME variable to C:\Program Files\R\R-2.15.1.



Now, append the PATH variable by %R_HOME%\bin\x64 (or directly by C:\Program Files\R\R-2.15.1\bin\x64).



4. **Test the new environment variables** by opening a MS DOS prompt and type R.

If you this, your Path environment variable is wrong:

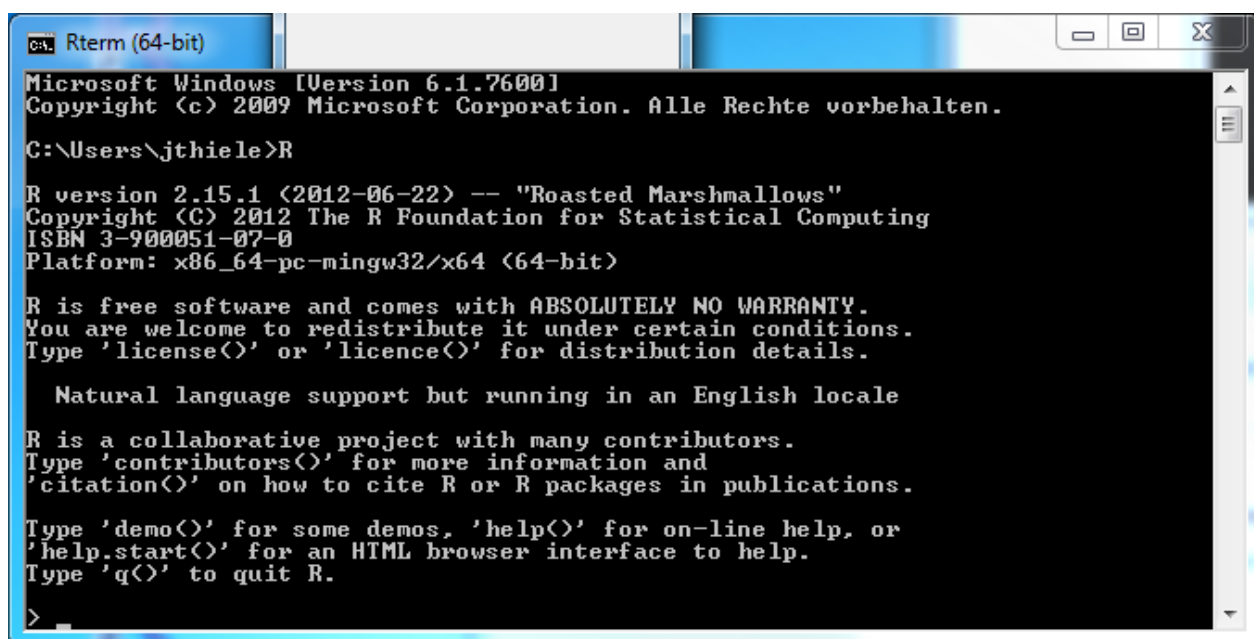


```
Microsoft Windows [Version 6.1.7600]
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C:\Users\jthiele>R
Der Befehl "R" ist entweder falsch geschrieben oder
konnte nicht gefunden werden.

C:\Users\jthiele>
```

If the Rterm opens, everything until now went ok (don't forget to open a new MS DOS prompt after editing the environment variables):



```
Microsoft Windows [Version 6.1.7600]
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C:\Users\jthiele>R

R version 2.15.1 (2012-06-22) -- "Roasted Marshmallows"
Copyright (C) 2012 The R Foundation for Statistical Computing
ISBN 3-900051-07-0
Platform: x86_64-pc-mingw32/x64 (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

  Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

>
```

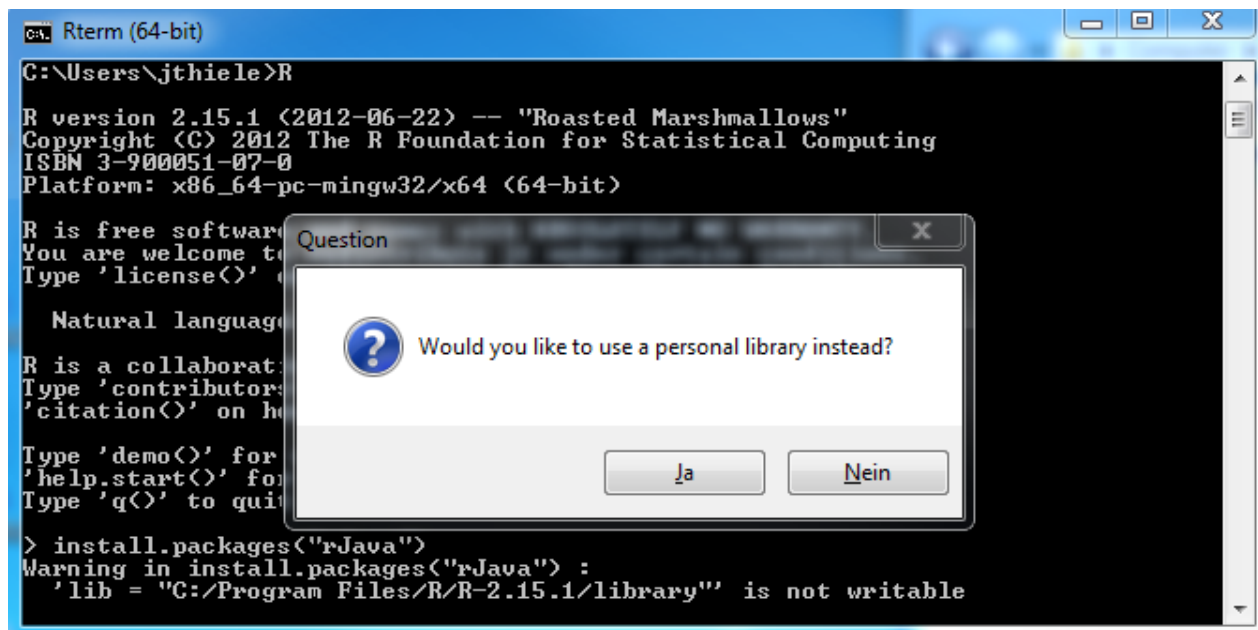
5. Install rJava.

Type into the open Rterm command line (make sure in the start up message of the Rterm there was written: *Platform: ... (64-bit)*):

```
install.packages("rJava")
```

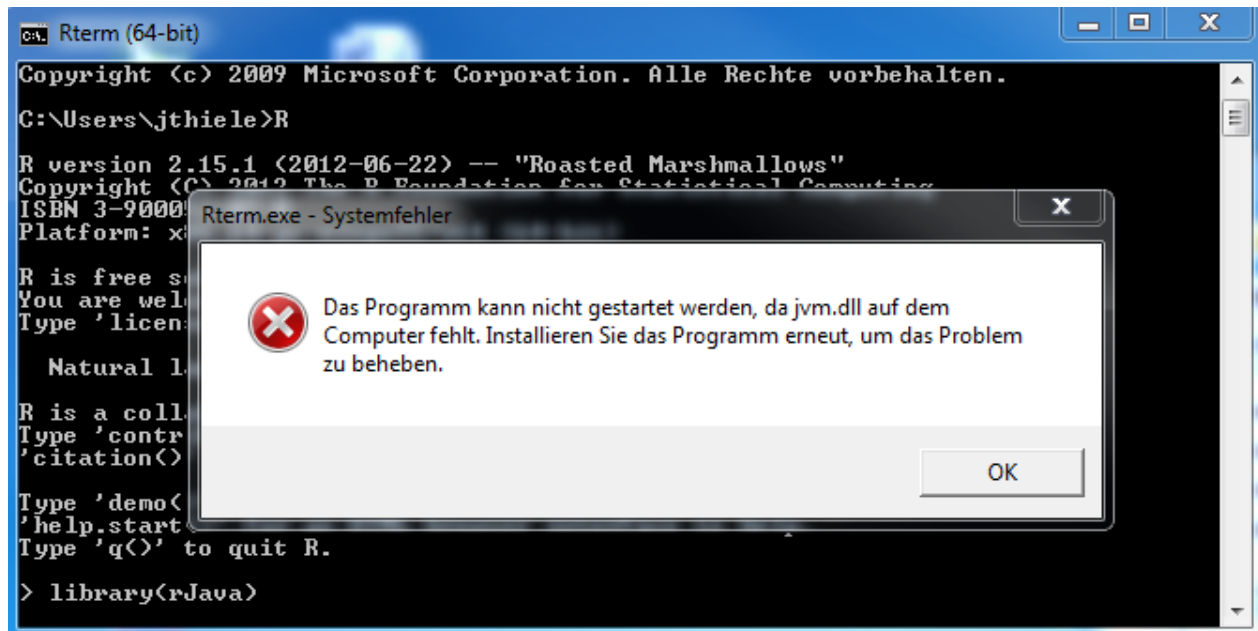
If you already installed the rJava package in 32-bit mode, please delete it first.

If you haven't started the MS DOS prompt as administrator you will be asked to create a personal library. Click "Yes" and keep the path given in mind. We will need it later (here it is C:\Users\jthiele\Documents\R\win-library\2.15):



6. Try to load rJava.

If you type in the Rterm `library(rJava)` and getting an error message that the `jvm.dll` cannot be found, go to step 7, otherwise go to step 9.



7. In case that **rJava cannot be loaded**:

The reason could be that the `JAVA_HOME` environment variable refers to a 32-bit Java (or no Java was found).

First, check if there is a `JAVA_HOME` environment variable. Then check, if you have a 64-bit Java installed (check your `C:\Program Files` folder for Java installations). If so, go to step 8.

If you don't have a 64-bit Java installed install a new 64-bit Java.

Get a 64-bit Java for example from here:

<http://www.oracle.com/technetwork/java/javase/downloads/jre-7u3-download-1501631.html>

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Java SE Runtime Environment 7 Downloads

Do you want to run Java™ programs, or do you want to develop Java programs? If you want to run Java programs, but not develop them, download the Java Runtime Environment, or JRE™.

If you want to develop applications for Java, download the Java Development Kit, or JDK™. The JDK includes the JRE, so you do not have to download both separately.

Java SE Runtime Environment 7u3

You must accept the [Oracle Binary Code License Agreement for Java SE](#) to download this software.

☐ Accept License Agreement ☒ Decline License Agreement

Product / File Description	File Size	Download
Linux x86 (32-bit)	19.96 MB	jre-7u3-linux-i586.rpm
Linux x86 (32-bit)	32.29 MB	jre-7u3-linux-i586.tar.gz
Linux x64 (64-bit)	20.3 MB	jre-7u3-linux-x64.rpm
Linux x64 (64-bit)	30.93 MB	jre-7u3-linux-x64.tar.gz
Solaris x86 (32-bit)	35.12 MB	jre-7u3-solaris-i586.tar.gz
Solaris SPARC (32-bit)	39.46 MB	jre-7u3-solaris-sparc.tar.gz
Solaris SPARC (64-bit)	12.13 MB	jre-7u3-solaris-sparcv9.tar.gz
Solaris x64 (64-bit)	9.09 MB	jre-7u3-solaris-x64.tar.gz
Windows x86 (32-bit) Online	0.85 MB	jre-7u3-windows-i586-iftw.exe
Windows x86 (32-bit) Offline	19.38 MB	jre-7u3-windows-i586.exe
Windows x64 (64-bit)	20.48 MB	jre-7u3-windows-x64.exe

Java SDKs and Tools

- Java SE
- Java EE and Glassfish
- Java ME
- JavaFX
- Java Card
- NetBeans IDE

Java Resources

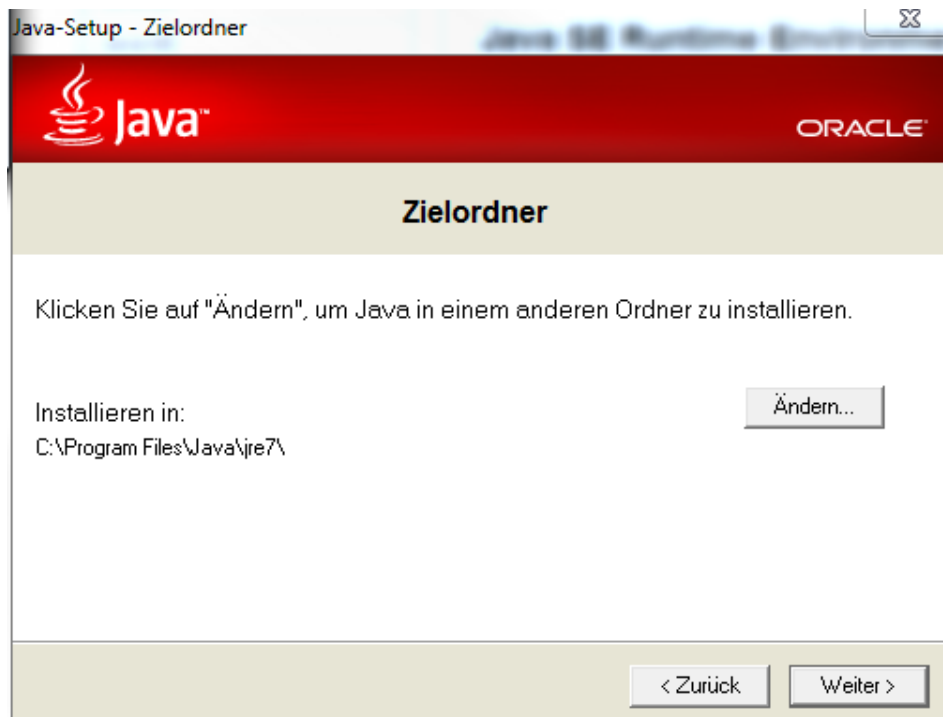
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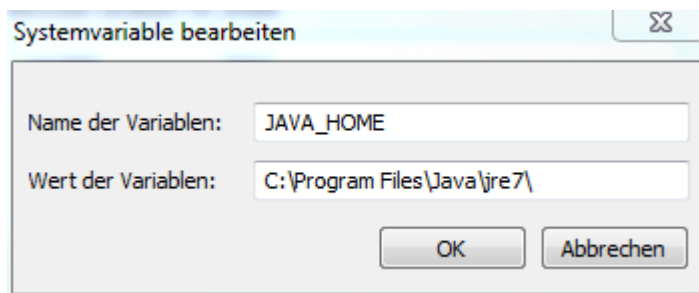
Choose the Windows x64 (64-bit) Online or Offline version.

At the beginning of the installation check the box "Change Destination folder" (or similar) to check, where Java will be installed.

It should be something like the following (`C:\Program Files\Java\jre7\`):



8. Add/Change the `JAVA_HOME` environment variable with the path to the 64-bit Java (maybe not necessary but cleaner).



Then, open a new MS DOS prompt and start the Rterm again. Type within the Rterm command line again `library(rJava)`. Should work now (means no error message is shown)!

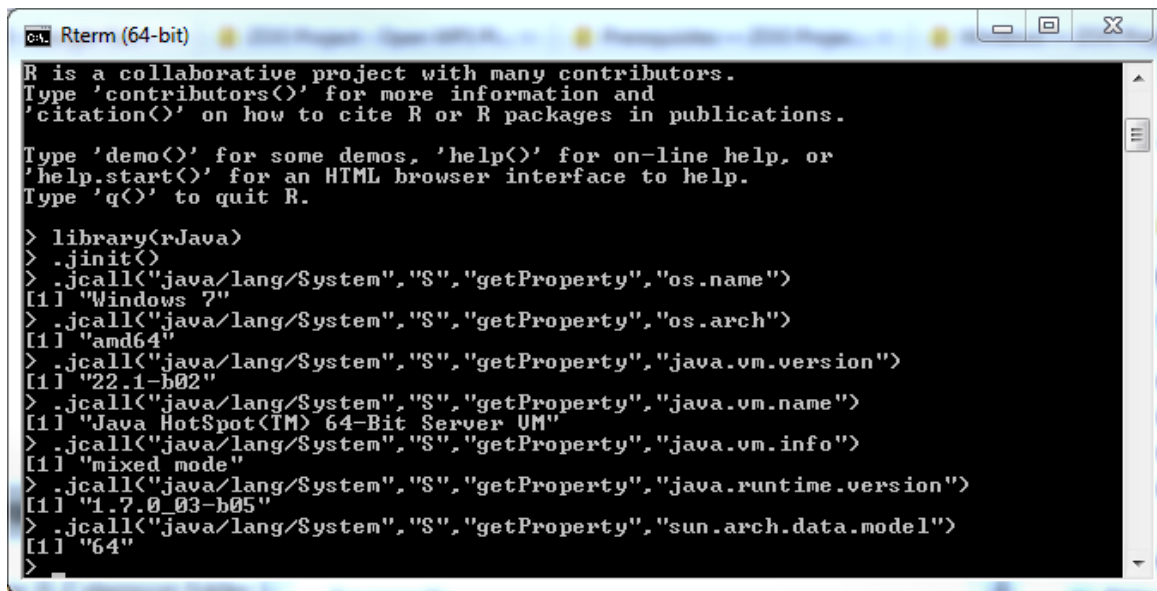
9. See **which Java version is running with rJava**.

Type in the Rterm (after loading rJava: `library(rJava)`):

```
.jinit()
.jcall("java/lang/System", "S", "getProperty", "os.name")
.jcall("java/lang/System", "S", "getProperty", "os.arch")
.jcall("java/lang/System", "S", "getProperty", "java.vm.version")
.jcall("java/lang/System", "S", "getProperty", "java.vm.name")
.jcall("java/lang/System", "S", "getProperty", "java.vm.info")
```

```
.jcall("java/lang/System", "S", "getProperty", "java.runtime.version")
```

```
.jcall("java/lang/System", "S", "getProperty", "sun.arch.data.model")
```



```
Rterm (64-bit)
R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

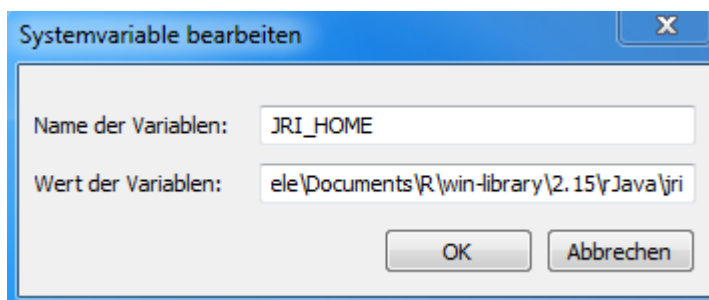
> library(rJava)
> .jinit()
> .jcall("java/lang/System", "S", "getProperty", "os.name")
[1] "Windows 7"
> .jcall("java/lang/System", "S", "getProperty", "os.arch")
[1] "amd64"
> .jcall("java/lang/System", "S", "getProperty", "java.vm.version")
[1] "22.1-b02"
> .jcall("java/lang/System", "S", "getProperty", "java.vm.name")
[1] "Java HotSpot(TM) 64-Bit Server VM"
> .jcall("java/lang/System", "S", "getProperty", "java.vm.info")
[1] "mixed mode"
> .jcall("java/lang/System", "S", "getProperty", "java.runtime.version")
[1] "1.7.0_03-b05"
> .jcall("java/lang/System", "S", "getProperty", "sun.arch.data.model")
[1] "64"
>
```

10. Set JRI_HOME environment variable.

Now, come back to the path you have in mind from step 5, the installation path of the rJava package.

Here, it was `C:\Users\jthiele\Documents\R\win-library\2.15`.

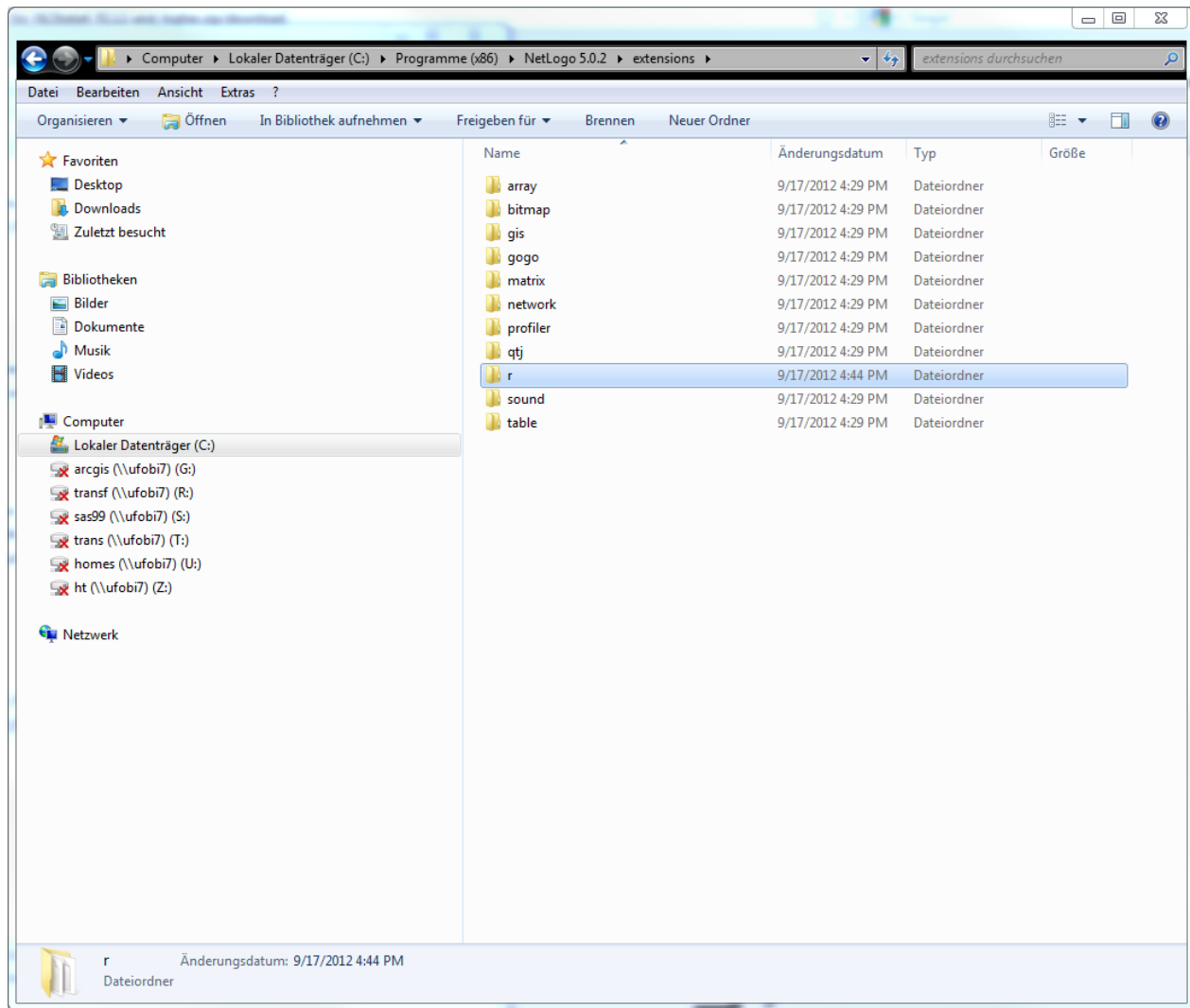
We will create a new environment variable with name `JRI_HOME` and value `C:\Users\jthiele\Documents\R\win-library\2.15\rJava\jri`.



11. Download the R-Extension

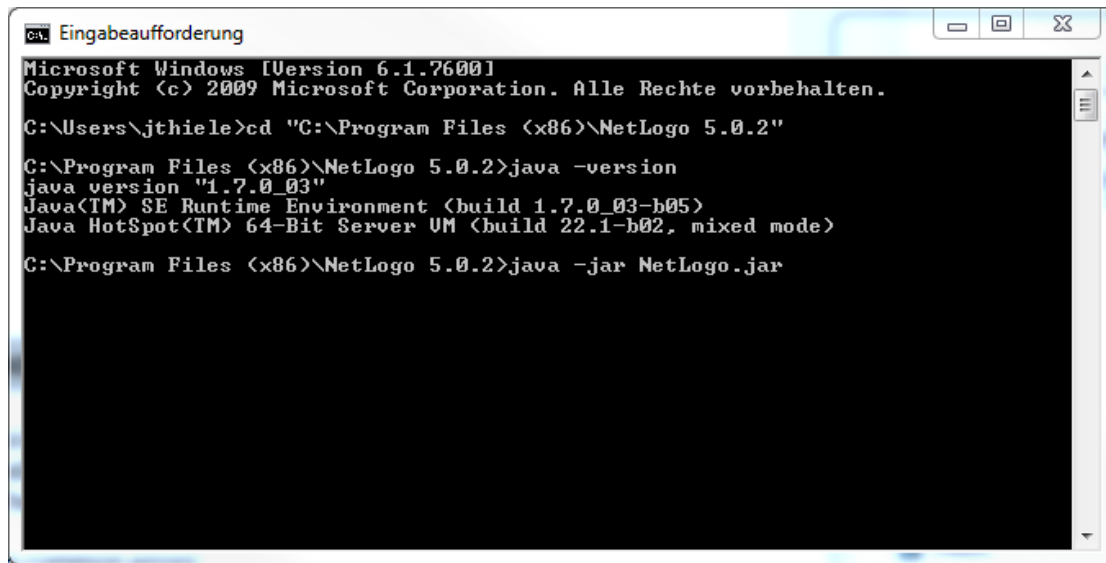
(http://sourceforge.net/projects/r-ext/files/v1.0%28beta%29%20for%20NetLogo5%20and%20R2.12%20and%20later/r_v1.0beta_build3_for_NL5beta4_R2.12-and_higher.zip/download).

Extract the zip folder and copy only the folder `r` into the extensions folder of the NetLogo installation (here: `C:\Program Files (x86)\NetLogo 5.0.2\extensions`).



12. Test it all together!

Start NetLogo 5.0.2 with 64-bit Java, e.g. by starting it from the MS-DOS-Command prompt:



```
Microsoft Windows [Version 6.1.7600]
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C:\Users\jthiele>cd "C:\Program Files (x86)\NetLogo 5.0.2"

C:\Program Files (x86)\NetLogo 5.0.2>java -version
java version "1.7.0_03"
Java(TM) SE Runtime Environment (build 1.7.0_03-b05)
Java HotSpot(TM) 64-Bit Server VM (build 22.1-b02, mixed mode)

C:\Program Files (x86)\NetLogo 5.0.2>java -jar NetLogo.jar
```

Write into the Procedures Tab:

```
extensions [r]
```

and press the Check button (If NetLogo closes immediately something with the *R_HOME* and *PATH* variable is wrong). If there is a problem with rJava/JRI you should see an error message.

Otherwise go to the Interface Tab and type into the Command Center:

```
print r:get "rnorm(10)"
```

You should see a list of 10 random values.

