

Guide to fixing errors when solving a problem set

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1 Seven steps to solve an error in a problem set:

Here is some advice how to proceed if you get an error when solving your interactive problem set that you don’t know how to solve. Please follow the seven steps in this order if you encounter an error that you cannot solve.

1.1 1. Check you solution with the Addin “Check Problemset”

The whole idea of RTutor is to provide some help in automatically checking your solution. In the symbol panel on the top you see the “Addins”. Click on it and then click on “Check Problemset”.

If you don’t see the “Addins” menu in the symbol panel, please install the newest RStudio version from here:
<https://www.rstudio.com/products/rstudio/download/>

If you don’t see the “Check Problemset” Addin after pressing on Addins, please install the newest RTutor version. (see point 4 below)

1.2 2. Check out for a hint

Sometimes you have the option to type `hint()` to get a hint of how to solve the exercise.

1.3 3. Take a look at the list of common errors and solution below in Section 2 of this document.

Some errors will not be detected by RTutor or the error message is not really useful. Below is a list that should help you to identify and resolve some of those errors.

1.4 4. Make sure you have installed the newest version of RTutor (from github) and have downloaded the newest version of the .rps file. Clear Workspace and restart RStudio.

Sometimes an error is due to a bug in the problem set or in RTutor which may have already been fixed in the newest versions. Proceed as follows:

1. Install the newest version of RTutor from Github. See the installation instructions on <https://github.com/skranz/RTutor>.
2. Download the newest .rps file (from Moodle) in the folder with your problem set
3. Choose in RStudio the Menu command: Session -> Clear Workspace
4. Restart RStudio
5. Try out again checking the problem set

(Note: You may also need to remove the .RData file from your problem set folder. For a detailed description see Section 2.5 below.)

1.5 5. If your course has a discussion forum, check if somebody else had a similar error and whether there is an answer that solves your problem.

It is generally a good idea for course instructors to create such a discussion forum, e.g. on the Moodle site of the course.

1.6 6. If your course has a discussion forum, use it to post a question. Show the R output for the error and maybe a one or two lines of your code where the error occurs. (But *don't* upload your whole problem set.)

On the discussion forum you should get answers either by other students or by the teaching assistant or lecturer of the course. The nice thing is that other students who encounter similar problems can then also use these answers.

- 1.7 7. Only if points 1 to 6 don't help, send an email to your teaching assistant (and possibly to your lecturer) with your .Rmd file and a description of your error.

2 Frequently encountered errors and their solution

2.1 1. You destroyed the header or footer line of a code chunk

Do you get an error message looking similar to the following:

```
> source('~/.active-rstudio-document', echo=TRUE)
Error in source("~/active-rstudio-document", echo = TRUE) :
  ~/.active-rstudio-document:36:2: unexpected ')'
35:
36: b)
```

It could then be that you have destroyed the header or footer line of a code chunk. Your problem sets have the format of R-Markdown files (.Rmd) which are simple text files that allow to mix formatted text with R code. Here is an example:

```
a) Compute in R 5*5
```{r }
5*5
```

b) Now store the value 10 in the variable x ...
```

A code chunk starts with a line like

```
```{r }
```

and ends with a line

```
```
```

Never change those start and end lines!

Changing these lines can happen by accident, however. E.g. you may accidentally remove the footer line of the code chunk and get something like

```
a) Compute in R 5*5
```{r }
5*5

b) Now store the value 10 in the variable x ...
```

If you then check your solution, you will get a cryptic error message as above. The best is to search for the code shown in the error message (here `b)`) and check whether you messed up a code chunk above. Note that RStudio shows code chunks with a light-grey background while text has white background. This should help you to find messed up code chunks.

## 2.2 2. Problems reading csv files (Excel distorts csv files)

If your problem set uses some data, e.g. in a csv file, always download the file directly from your browser (right click on the file)

Don't open the file in Excel and save afterwards. It is very likely that Excel changes the format of the csv file and that it cannot be correctly used afterwards in your problem set.

## 2.3 3. Packages cannot be installed for your brand new R version

If you have installed a brand new R version it can unfortunately sometimes happen that some R packages are not yet available for that newest R version. When you try to install them from CRAN you get an error message like:

```
"packages 'magrittr', 'Lahman', 'highlights' are not available (for R version 3.1.0)"
```

I don't know a better solution than installing again a previous release of R instead of the newest version. Here is a website with earlier R releases for Windows:

<http://cran.r-project.org/bin/windows/base/old/>

## 2.4 4. Strange errors of RTutor – Remove file .Rdata from your problem set directory

We had the case of very cryptic RTutor errors that looked similar as follows when checking your solution:

```
error in eval(...): cannot find function check.assign
```

The error could be fixed by doing the following:

1. Close RStudio
2. Open with your file explorer your problem set directory
3. Search for a file with name `.Rdata` and if it exists, delete it.

Background: When you close RStudio, you will typically asked a question, similar as follows: “Do you want to save your Workspace to C:/folder/.RData?”. If you press yes, your current R objects in the memory will be stored in the `.RData` file and automatically be loaded, if you start RStudio by double clicking on a file in this folder. However, sometimes you want a fresh restart of RTutor and it can cause problems if you have reloaded a workspace that was saved, after you have already run RTutor. So you need to remove the `.RData` file.

Alternative solution: Change RStudio options not to load `.RData` files

Instead of manually deleting the `.RData` files, you can tell RStudio to never load (or save `.RData` files). For this go to the menu

Tools → Global Options

Then disable the following option and press “Apply”:

- “Restore `.RData` into workspace on start up”

In addition, you can also set the option “Save workspace to .RData on exit” to “never”, to avoid that the workspace is saved when you close RStudio.

See the screenshot for the desired option settings:

