

Exercise: file manipulation

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1) Logging the System time

- a) write a loop that
 - sleeps 1 second
 - writes a text-file with name equal to the current time
- b) write a function that
 - writes a file with some content of your choosing
 - but only if a file with the same name does not exist or is older than 20 seconds

example of a function writing a file

```
write_punny_file <- function(name="no_a_clever_name.txt"){  
  writeLines("content", name)  
}
```

- c) write a loop that
 - sleeps for a second
 - appends the current time to a file

2) Pasting file names

- a) generate a data.frame
 - with two variables
 - each having three values
 - build a double loop (one over variable 1, one over variable 2)
 - for each iteration a file should be written to disk
 - the file name should entail the value of variable one and two

example of a double loop

```
for( i in 1:3){  
  for( j in 1:3){  
    cat("- i=", i, "j=", j, "\n")  
  }  
}
```

- b) use `expand.grid()` on the data.frame created before
 - than use `apply()` to apply the paste function with option `collapse="_"` on each row
 - use the resulting strings to create the same file as in ex-2.a

3) Reading files

- a) use `list.files()` to get a vector of file names in the current folder
- b) use `list.files()` in combination with option `pattern`
 - to only get a subset of files
 - use three different subsets
- c) make an empty list
 - use `list.files()` to get a vector of file names
 - use `file.info()` to get further information on the files (`mtime`)
 - read in the content of the files
 - only for those files that are newest according to `mtime`