

Biometry. Lecture 5

Alexey Shipunov

Minot State University

January 25, 2012

Outline

1 Questions and answers

2 Processing of data

- R
- Entering data into R

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- 2 Processing of data
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Previous final question: the answer

What is a difference between descriptive and inferential methods?

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What is a difference between descriptive and inferential methods?

- Just numbers vs. probability

Processing of data

R

R pros and cons

- Extremely flexible, open source
- No GUI: which command?

R break: flexibility

```
# There is a sequence from 1 to 9  
# Split it in three columns
```

R break: flexibility

```
# There is a sequence from 1 to 9  
# Split it in three columns
```

```
> matrix(1:9, ncol=3)
```

R break: which command?

```
> corr # Press Tab -- not working!  
> ?correlation # Error!  
> ??correlation # stats:cor.test found  
> ?cor.test  
> RSiteSearch("correlation")  
> example(cor.test) # useful, especially for graphs
```

Textbook 1.1: first steps

```
> install.packages("ISwR") # needed only once  
> library(ISwR)  
> plot(rnorm(1000)) # two new commands
```

Enter `library(ISwR)` each time you work with textbook exercises.

Processing of data

Entering data into R

How to create data object (vector)

```
> a <- c(1, 2, 3, 4, 5)
> a
> b <- 1:5
> b
```

Commands `c()` and `:` create vectors (sequences of numbers)

How to edit an object (vector variant)

```
> e <- edit(a)  
> fix(a)
```

Commands `edit()` and `fix()` both call external editor. For vectors, they will call the text editor.

How to edit an object (table variant)

```
> data.entry(b)  
> de(b)
```

These commands both have visual interface and will convert vector into **data frame** (table-like object).

Loading external data: working with folders

Before the start, please create the working folder `biol_299` and `data` folder inside it.

```
> getwd()
> setwd("c:
biol_299") # duplicate backslashes!
> dir()
```

Put the data file into the folder

```
> download.file("http://ashipunov.info/data/spur.txt",  
+ "data/spur.txt")  
> dir("data")
```

`dir()` should show your file name (`mydata.txt`)

Final question (2 points)

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What is a difference between

```
c(1, 2, 3)
```

and

```
a <- c(1, 2, 3)
```

?

Summary: most important commands

- `getwd()` to check working folder
- `setwd()` to change working folder

For Further Reading



A. Shipunov.

Biometry [Electronic resource].

2012—onwards.

Mode of access: [http:](http://)

[//ashipunov.info/shipunov/school/biol_299](http://ashipunov.info/shipunov/school/biol_299)



P. Dalgaard

Introductory Statistics with R. 2nd edition.

Springer, 2008.

Section 1.1.