

Assignment 1

(note: **no cover page** necessary; **be concise**, a solution is typically a **few pages**, **not more than 8 pages** (and that would usually already be too much), excl. appendix. In particular, for every page exceeding the 8th page and for every quarter hour of late submission, 0.1 (Assignment 1) or 0.2 points (Assignments 2-7) are deducted.) In addition:

If you don't adhere to other rules presented here, the grader can subtract up to 1 point (out of 10 for Assignment 1)/up to 2 (out of 20 for the others).

Exercise 1.1

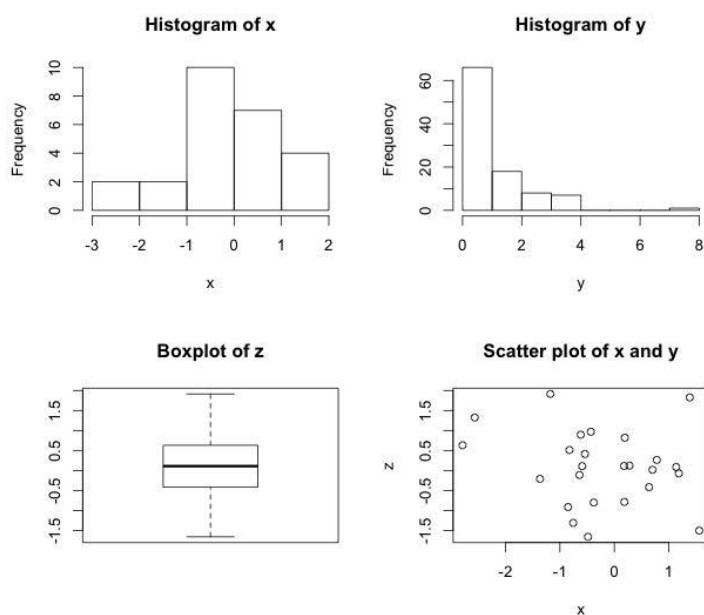
Do not copy the question, just write the answer. Write a compact answer, in your own words. It should convince the grader that you understand the theory and can interpret the results. **No lengthy answers, but, of course, do not leave out any essentials**, since it should convince us that you understand the theory.

Always use proper rounding. In most cases 2-3 digits after the decimal point suffice. For instance:

- $0.015435234 \rightarrow 0.015$
- $0.4232 \rightarrow 0.42$
- $7e-4 = 0.0007 \rightarrow 0.001$

Make sure your report is uploaded as text that can be copied (and scanned by Urkund) and not as a picture. Otherwise, your submission is not acceptable.

Figures can be small, if details are still visible. You can put **two figures next to each other**. Use `par(mfrow=c(n,m))` to create n by m graphs in one picture in R.



Make sure your figures are neat:

- axis labels
- a title
- it shows all the data
- and are always described in the text

(perhaps new page for appendix)

Appendix

Exercise 1.1

```
set.seed(128912)
```

```
x=rnorm(25)
```

```
hist(x)
```

```
y=rexp(100)
```

```
hist(y)
```

Put only relevant R-code in the appendix (i.e. delete all unnecessary lines, which didn't work).

In particular, the R-code must be executable, i.e. it mustn't contain `>`.

Do not place any explanations here.