

# Package ‘proton’

May 9, 2026

**Title** The Proton Game

**Version** 1.0

## Description

'The Proton Game' is a console-based data-crunching game for younger and older data scientists. Act as a data-hacker and find Slawomir Pietraszko's credentials to the Proton server.

You have to solve four data-based puzzles to find the login and password.

There are many ways to solve these puzzles. You may use loops, data filtering, ordering, aggregation or other tools.

Only basics knowledge of R is required to play the game, yet the more functions you know, the more approaches you can try.

The knowledge of dplyr is not required but may be very helpful.

This game is linked with the „Pietraszko's Cave" story available at <http://biecek.pl/BetaBit/Warsaw>.

It's a part of Beta and Bit series.

You will find more about the Beta and Bit series at <http://biecek.pl/BetaBit>.

**Depends** R (>= 3.0.0)

**Imports** digest

**License** GPL-2

**LazyData** true

**Encoding** UTF-8

**RoxygenNote** 5.0.1

**NeedsCompilation** no

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## Contents

bash\_history . . . . . 2

employees . . . . .	2
logs . . . . .	3
proton . . . . .	3
top100passwords . . . . .	4

<b>Index</b>	<b>5</b>
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bash_history	<i>The history of recently executed commands.</i>
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### Description

The character vector of recently executed commands. Each element of the vector consists of command's name and command's arguments separated with a space.

### Usage

```
data(bash_history)
```

### Format

a character vector with 19913 elements.

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employees	<i>The database with employees of Faculty of Electronics and Information Technology of Warsaw University of Technology.</i>
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### Description

The dataset describing names, surnames and faculty employees' logins. Note that it is an artificial dataset that imitates real database. The subsequent columns in this dataset describe:

- name. The name of an employee.
- surname. The surname of an employee.
- login. The login of an employee on the Proton server.

### Usage

```
data(employees)
```

### Format

a data frame with 541 rows and three columns.

---

logs

*The history of logs into the Proton server*

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### Description

The dataset describing the history of logs: who, from where and when logged into the Proton server. The subsequent columns in this dataset describe:

- login. The login of the user which logs into the Proton server.
- host. The IP address of the computer, from which the log into the Proton server was detected.
- date. The date of log into the Proton server. Rows are sorted by this column.

### Usage

```
data(logs)
```

### Format

a data frame with 59366 rows and 3 columns.

---

proton

*The Proton Game*

---

### Description

The proton function is used for solving problems in the data-based game „The Proton Game”. Solve four data-based puzzles in order to crack into Pietraszko’s account!

### Usage

```
proton(...)
```

### Arguments

... proton function is called by different arguments, which vary depending on a problem that Bit is trying to solve. See `Details` in order to learn more about the list of possible arguments.

### Details

Every time when some additional hints are needed one should add `hint=TRUE` argument to the `proton` function.

In order to get more information about a user on the Proton server one should pass `action = "login"`, `login="XYZ"` arguments to the `proton` function.

In order to log into the Proton server one should pass `action = "login"`, `login="XYZ"`, `password="ABC"` arguments to the `proton` function. If the password matches login, then one will receive a message about successful login.

In order to log into a server different from Proton one should pass `action = "server"`, `host="XYZ"` arguments to the `proton` function.

„The Proton Game” is a free of charge, educational project of the SmarterPoland.pl Foundation. By transferring a donation on the foundation’s account, which is shown on site <http://smarterpoland.pl/index.php/fundacja/>, you will help us to create other educational games. Even an amount of \$10 will facilitate creation and maintenance of subsequent educational projects! Thank you!

### Author(s)

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### Examples

```
## Not run:  
proton()  
proton(hint=TRUE)  
  
## End(Not run)
```

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top1000passwords

*The vector of 1000 most popular passwords.*

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### Description

The character vector of 1000 most commonly used passwords. It is sorted by the frequency of password’s usage. First passwords in the vector are the most frequently used.

### Usage

```
data(top1000passwords)
```

### Format

a character vector with 1000 elements.

# Index

## \* datasets

bash\_history, 2

employees, 2

logs, 3

top1000passwords, 4

bash\_history, 2

employees, 2

logs, 3

proton, 3

top1000passwords, 4