<table>
<thead>
<tr>
<th>Type</th>
<th>Package</th>
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<tbody>
<tr>
<td>Title</td>
<td>Fit Repeated Linear Regressions</td>
</tr>
<tr>
<td>SystemRequirements</td>
<td>GNU Scientific Library (GSL). Note: users should have GSL installed.</td>
</tr>
<tr>
<td>Version</td>
<td>1.2.1</td>
</tr>
<tr>
<td>Date</td>
<td>2021-07-16</td>
</tr>
<tr>
<td>Author</td>
<td>Lijun Wang [aut, cre, cph]</td>
</tr>
<tr>
<td>Maintainer</td>
<td>Lijun Wang <a href="mailto:szcfweiya@gmail.com">szcfweiya@gmail.com</a></td>
</tr>
<tr>
<td>Description</td>
<td>When fitting a set of linear regressions which have some same variables, we can separate the matrix and reduce the computation cost. This package aims to fit a set of repeated linear regressions faster. More details can be found in this blog Lijun Wang (2017) <a href="https://stats.hohoweiya.xyz/regression/2017/09/26/An-R-Package-Fit-Repeated-Linear-Regressions/">https://stats.hohoweiya.xyz/regression/2017/09/26/An-R-Package-Fit-Repeated-Linear-Regressions/</a>.</td>
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<tr>
<td>License</td>
<td>GPL (&gt;= 2)</td>
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<tr>
<td>Imports</td>
<td>Rcpp (&gt;= 0.12.12)</td>
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<tr>
<td>LinkingTo</td>
<td>Rcpp</td>
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<td>RoxygenNote</td>
<td>7.1.1</td>
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<tr>
<td>Encoding</td>
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<tr>
<td>Suggests</td>
<td>knitr, rmarkdown</td>
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<td>VignetteBuilder</td>
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<tr>
<td>NeedsCompilation</td>
<td>yes</td>
</tr>
<tr>
<td>Repository</td>
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</tr>
<tr>
<td>Date/Publication</td>
<td>2021-07-29 08:50:09 UTC</td>
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Description

A more detailed description of what the package does. A length of about one to five lines is recommended.

Details

This section should provide a more detailed overview of how to use the package, including the most important functions.

Author(s)

Your Name, email optional.
Maintainer: Your Name <your@email.com>

References

This optional section can contain literature or other references for background information.

See Also

Optional links to other man pages

Examples

```r
## Not run:
## Optional simple examples of the most important functions
## These can be in \dontrun{} and \donttest{} blocks.

## End(Not run)
```

frlr1

Fit Repeated Linear Regressions with One Variable

Description

Fit a set of linear regressions which differ only in one variable.

Usage

frlr1(R_X, R_Y, R_COV)
**Arguments**

- **R_X**  
  the observation matrix
- **R_Y**  
  the response
- **R_COV**  
  common variables

**Value**

the fitting results for each regression.

**Examples**

```r
set.seed(123)
X = matrix(rnorm(50), 10, 5)
Y = rnorm(10)
COV = matrix(rnorm(40), 10, 4)
frlr1(X, Y, COV)
```

---

**frlr2**  
*Fit Repeated Linear Regressions with Two Variables*

**Description**

Fit a set of linear regressions which differ only in two variables.

**Usage**

```r
frlr2(R_X, R_idx1, R_idx2, R_Y, R_COV)
```

**Arguments**

- **R_X**  
  the observation matrix
- **R_idx1**  
  the first identical feature
- **R_idx2**  
  the second identical feature
- **R_Y**  
  the response variable
- **R_COV**  
  common variables

**Value**

the fitting results for each regression.

**Examples**

```r
set.seed(123)
X = matrix(rnorm(50), 10, 5)
Y = rnorm(10)
COV = matrix(rnorm(40), 10, 4)
idx1 = c(1, 2, 3, 4, 1, 1, 1, 2, 2, 3)
idx2 = c(2, 3, 4, 5, 3, 4, 5, 4, 5, 5)
frlr2(t(X), idx1, idx2, Y, t(COV))
```
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