

# Package: kevinbacran (via r-universe)

September 6, 2024

**Title** Degrees of Separation Between CRAN authors

**Version** 0.0.0.9000

**Description** Calculate the shortest path through a graph network between any two authors listed on CRAN. Analagous to the Six Degrees of Kevin Bacon or Erdos Number. Author X collaborates with author Y; author Z collaborates with Y but not X, therefore the distance from X to Z is two.

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**Encoding** UTF-8

**LazyData** true

**URL** <https://github.com/matt-dray/kevinbacran>

**BugReports** <https://github.com/matt-dray/kevinbacran/issues>

**Imports** cranly, dplyr, ggplot2, ggraph, purrr, tidygraph, tidyr

**RoxygenNote** 6.1.1

**Suggests** testthat

**Repository** <https://matt-dray.r-universe.dev>

**RemoteUrl** <https://github.com/matt-dray/kevinbacran>

**RemoteRef** HEAD

**RemoteSha** 7729d3ed00a1d84c145233aeab11af50cd503a9a

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`cran_graph`*Package-Author Tidygraph From A CRAN Database Snapshot*

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**Description**

A tidygraph object of all package-author relationships as captured on 28 February 2019. Extracted using the `kevinbacran::kb_combos()` function. Intended as an example for testing the other functions in the package.

**Usage**

```
data(cran_graph)
```

**Format**

A large `tbl_graph` (16924 nodes, 99568 edges, 10 elements, 5.8 Mb)

**Nodes** package authors

**Edges** package names

**Source**

<https://cran.r-project.org/>

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`kb_combos`*Fetch CRAN Authors And Create Tidygraph*

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**Description**

Fetches CRAN package data, cleans author names, creates a tidy tibble of each package-author combination and turns this into a tidygraph object. Nodes are authors and edges are packages they collaborate on.

**Usage**

```
kb_combos()
```

**Value**

A tidygraph object with classes `'tbl_graph'` and `'igraph'`.

**Examples**

```
## Not run:  
cran_graph <- kb_combos()  
print(cran_graph)  
  
## End(Not run)
```

---

`kb_distance`*The Degree Of Separation Between Named Authors*

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**Description**

Returns a numeric value that represents the degrees of separation between the two named authors that were provided to `kevinbacran::kb_pair()`. This value is the number of edges, or packages, required to link those two authors by the shortest route. The value is analagous to the 'Kevin Bacon Number' or 'Erdos Number'.

**Usage**

```
kb_distance(pair_graph)
```

**Arguments**

`pair_graph` A tidygraph object of CRAN authors/packages created with `kb_pair()`

**Value**

A single numeric value

**Examples**

```
## Not run:  
separation <- kb_distance(pair_graph)  
print(separation)  
  
## End(Not run)
```

---

`kb_pair`*Get Author-Package Network For Two Named Authors*

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**Description**

Finds one of the possible shortest paths between two named authors from CRAN. This is possible by searching the tidygraph object of all CRAN's package-author relationships created with `kevinbacran::kb_combos()`. Outputs a tidygraph object that's a subset of the full CRAN tidygraph. This output contains only the named authors and the authors and packages that link them together.

**Usage**

```
kb_pair(tidy_graph, name_a, name_b = "Hadley Wickham")
```

**Arguments**

tidy\_graph      A tidygraph object of CRAN authors/packages created with kb\_combos()  
name\_a          A character string of a CRAN author's name (one of two)  
name\_b          A character string of a CRAN author's name (two of two)

**Value**

A tidygraph object with classes 'tbl\_graph' and 'igraph'.

**Examples**

```
## Not run:  
pair_graph <- kb_pair(cran_graph, "Garrett Grolemond", "Yihui Xie")  
print(pair_graph)  
  
## End(Not run)
```

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kb\_plot

*Simple Plot Of Shortest Distance Between CRAN Authors*

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**Description**

Returns a ggplot2 object that represents the degrees of separation between the two named authors that were provided to kevinbacran::kb\_pair(). The two named authors are terminal nodes. Intermediate nodes represent intermediate authors that link via edges that represent a package that the authors collaborated on.

**Usage**

```
kb_plot(pair_graph)
```

**Arguments**

pair\_graph      A tidygraph object of CRAN authors/packages created with kb\_pair()

**Value**

A ggraph plot

**Examples**

```
## Not run:  
<- kb_plot(pair_graph)  
print(separation)  
  
## End(Not run)
```

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