

# Idiomatic R for Rosetta Code

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[www.code-cop.org](http://www.code-cop.org)

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# Peter Kofler

- Ph.D. (Appl. Math.)
- Java et.al. Software Developer for 13 years
- „fanatic about code quality“
- R “developer” since 2012



The opinions expressed here are my own and do not necessarily represent those of current or past employers.





# Rosetta Code



# Rosetta Code

- <http://rosettacode.org/>
- programming chrestomathy site
  - solutions to same task
  - in many different languages
  - demonstrate how languages are similar/different



# R „Easy Picks“

- Some basic samples not set, e.g.
  - [http://rosettacode.org/wiki/Include\\_a\\_file#R](http://rosettacode.org/wiki/Include_a_file#R)
  - [http://rosettacode.org/wiki/Element-wise\\_operations#R](http://rosettacode.org/wiki/Element-wise_operations#R)
- We should search for them and fix
  - now you know where to go  
in your lunch break  
(instead of Facebook ;-)
  - [http://rosettacode.org/wiki/Reports:Tasks\\_not\\_implemented\\_in\\_R](http://rosettacode.org/wiki/Reports:Tasks_not_implemented_in_R)

# Solve a Task

- before editing the Rosetta Code page
  - read the task
  - solve it
  - check your solution
- add your code to web
  - hit the preview button
  - add descriptions to code
- GNU Free Documentation License
- [http://rosettacode.org/wiki/Rosetta\\_Code:Solve\\_a\\_Task](http://rosettacode.org/wiki/Rosetta_Code:Solve_a_Task)

<markdown>

=={{header|R}}==

In R most operations work on vectors and matrices:

```
<lang R># create a 2-times-2 matrix  
mat <- matrix(1:4, 2, 2) </lang>
```

{{out}}

```
<pre>> mat <- matrix(1:4, 2, 2)  
      [,1] [,2]  
[1, ]    1    3  
[2, ]    2    4</pre>
```

</markdown>





Let's See Some Code

# For Review

- Arithmetic-geometric mean
  - [http://rosettacode.org/wiki/Arithmetic-geometric\\_mean](http://rosettacode.org/wiki/Arithmetic-geometric_mean)
  - [http://rosettacode.org/wiki/Arithmetic-geometric\\_mean#R](http://rosettacode.org/wiki/Arithmetic-geometric_mean#R)
  - Is it idiomatic?
- Fibonacci sequence
  - [http://rosettacode.org/wiki/Fibonacci\\_sequence](http://rosettacode.org/wiki/Fibonacci_sequence)
  - [http://rosettacode.org/wiki/Fibonacci\\_sequence#R](http://rosettacode.org/wiki/Fibonacci_sequence#R)
  - Recursive, iterative or mapping?

# Work in Progress

- Zeckendorf number representation
- [http://rosettacode.org/wiki/Zeckendorf\\_number\\_representation](http://rosettacode.org/wiki/Zeckendorf_number_representation)
- Algorithm:
  - get an upper limit on Fibonacci numbers needed to cover number
  - return the sequence as digits, sorted descending
  - drop leading 0 and convert to String
- Is this nice R?

# Help Needed

- Pythagorean triples
- [http://rosettacode.org/wiki/Pythagorean\\_triples](http://rosettacode.org/wiki/Pythagorean_triples)
- I am stuck!
- How to find all tripples with diameter  $x$   
in a **functional** way?
- Is this part of Project Euler problems?  
Oops!





Thank  
You



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# CC Images

- Rosetta Stone: <http://www.flickr.com/photos/nrbelex/454711486/>
- Judge Dredd: <http://www.flickr.com/photos/eldave/6169431454/>
- Matrix: <http://www.flickr.com/photos/trinity-of-one/20562069/>
- Questions: <http://www.flickr.com/photos/seandreilinger/2326448445/>