Learning by contributing to Open-Source Software

stephane.ducasse@inria.fr https://github.com/pharo-project/pharo



z. zidane

Practiced football?



z. zidane

Practiced football? Yes



z. zidane



r. federer

Practiced tennis?



r. federer

Practiced tennis? Yes



r. federer



k. buniatishvili

Practiced Piano?



k. buniatishvili

Practiced Piano? Yes



k. buniatishvili

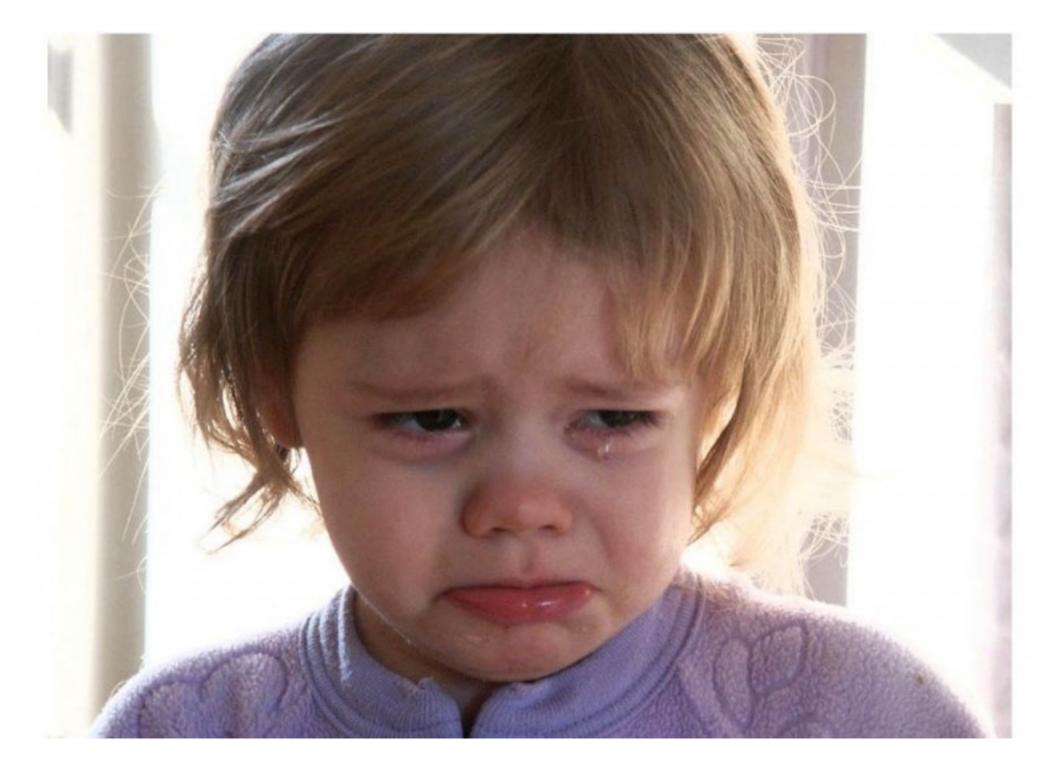
Did you see the pattern?

How to practice software skills?

How to practice software skills?

- Program (but how to get feedback) code reviews are precious but difficult to get
- Code katas (always fun)
- Participate to sprints Pair program
- Participate to open-source

But I'm a noob



And the world is complex

Wait wait wait...

We are all noobs!



The solution is just some clicks away...

Take any opportunity to read code

Take any opportunity to contribute

A PIECE OF CAKE

Contributing is easy & simple

Possible contributions

- Read/answer newbie questions
- Participate to the wiki
- Review bug entry description
- Review bug fixes
- Write tests for bug entries
- Improve test coverage
- Improve comments

Newbie Questions

- I learned a lot answering them :)
- When I did not know I looked for the answers
- Try and learn

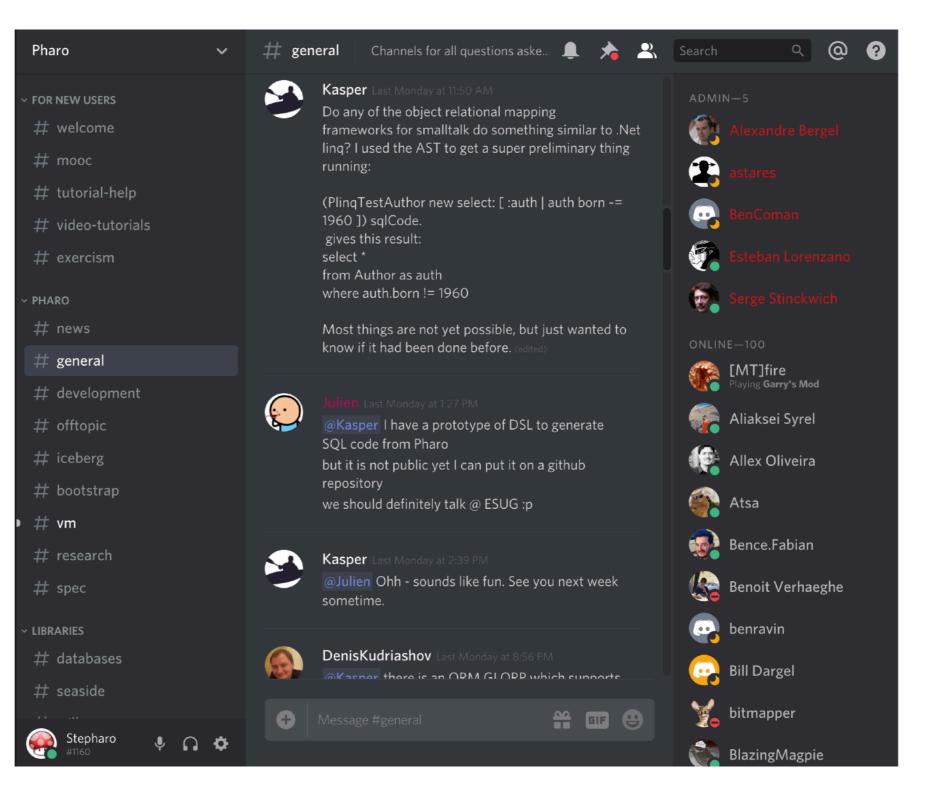
Read discord

Pharo v # exercism building out a portfolio for ht Search	Q (Q) ?
• FOR NEW USERS @tmackinnon ADMIN-5	
# welcome Vertical Alexandr V	
# mooc Oke, I see the symmertics but do not see the way I astares	
# tutorial-help can calculate the spaces	
# video-tutorials	
# exercism roelof Today at 1:21 PM still not right:" Esteban I	
<pre></pre>	
# news outerspaces := aChar asInteger -	
# general innerspaces := aChar asInteger -	
# general \$A asInteger - outerspaces + 1. Image: Fill as a stream for the stream for stream for stream for the stream for stream for the str	's Mod
# offtopic nextPutAll: (self Aliaksei S	jyrel
# iceberg displaySpaces: outerspaces); nextPut: aChar; nextPutAll: (self	veira
# bootstrap displaySpaces: innerspaces)]. Atsa ^ half , half allButLast reversed Atsa	
• # vm	
# research 😧 😧 Bence.Fa	oian
# spec NEW MESSAGES Benoit Ve	erhaeghe
LIBRARIES BenComan Today at 1:58 PM Denravin	
# databases Can you show what you do get?	
# seaside Image: Seaside	:1

hitmanner

Answer questions

- On discord
- Mailing-list



Take any opportunity to contribute

[how did we meet with Marcus D.?]

[we reviewed squeak bug issues]

Bug issue contribution

- Can you understand it?
 - else ask for precision
- Can you repeat the problem mentioned?
 - report it. This is a valuable information

Bug issue contribution

- Write a test to show the problem?
- If the contributor provides a test, is it sounds?

Join/read bug issue discussion

6	dalehenrich commented 19 days ago	Aut	hor	+ 😐 🚥	None yet		
	Once you get past the missing tab message you aren't completly out of the woods. If you want the STON output to be correctly display on stdout (on Ubuntu 16.04) you have to arrange for STONWriter to use String lf, instead of the default String cr if you don't, the output is pretty much scrambled				Milestone No milestone	¢	
					Notifications	Customize	
		◀× Unsubscribe					
	 dalehenrich referenced this issue 19 days ago (Pharo 7.0.3) StdioStream>>peek (on stdin) returns a byte instead of a character #4173 				You're receiving notifications because you're watching this repository.		
	dalehenrich commented 19 days ago	Aut	hor	+ 🔃 🚥	2 participants		
	FWIW, this implementation satisfies my needs:	음 Lock conversation					
	<pre>tab ^ self nextPutAll: String tab</pre>				r Pin issue ⓒ → Transfer issue		
	akgrant43 commented 18 days ago	Collabora	ator	+ 😄 🚥			
	As with #4173, take a look at wrapping stdout with a ZnCharacterWriteStream and ZnNewLineWriterStream.						
	dalehenrich commented 18 days ago	Aut	hor	+ 😧 …			

Ookarant 12 thanks a lat

What if you do not know? What if you do not understand?

Easy! Drop it and pick the next one

Read tests to learn

- Tests are cool to learn
- Tests can be improved, so you can improve them

Improve test coverage

- It is often easier to write tests than the code :)
- Grab an object and inspect it
- Turn this in a test

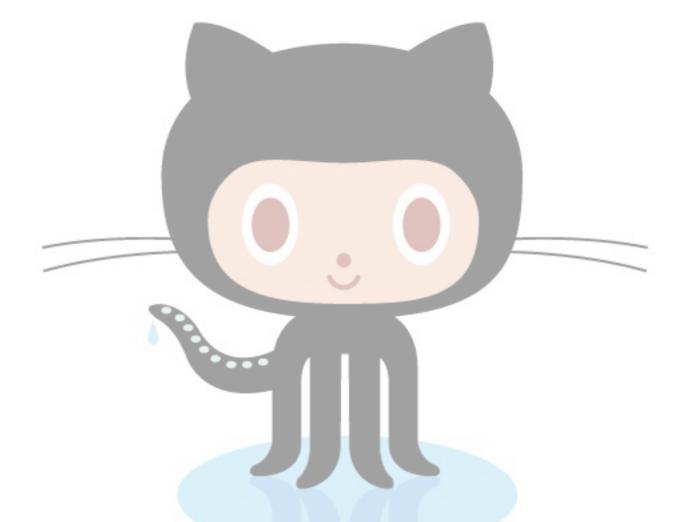
Add executable comments

allRangesOfSubstring: aSubstring

```
"'Ab cd ef Ab cd' allRangesOfSubstring: 'cd' >>> {(4 to: 5). (13 to: 14)}"
"'Ab cd ef Ab cd' allRangesOfSubstring: 'zz' >>> #()"
```

```
^ Array streamContents: [:s | | start subSize |
    start := 1.
    subSize := aSubstring size.
    [start isZero]
    whileFalse: [ start := self findString: aSubstring startingAt: start.
        start > 0
        ifTrue: [s nextPut: (start to: start + subSize - 1).
        start := start + subSize]]]
```

[Free side effect]



When you contribute to open-source you improve your visibility

[Remember]

Every thing you do today has an impact on your tomorrow!

[Personal note]

- My objective is to read (and understand) all Pharo source code :)
- So I take any opportunity to read code
- I even read closed issues

Do not miss a great opportunity to grow your knowledge

Join and invent the future