z. zidane
Practiced football? Yes

z. zidane
r. federer
Practiced tennis? Yes

r. federer
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 review 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
We are all noobs!
The solution is just some clicks away…
Take any opportunity to read code
Take any opportunity to contribute
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
Roelof: Today at 11:34 AM
Oke, I see the symmetries but do not see the way I can calculate the spaces

Roelof: Today at 12:21 PM
still not right:

```makeRow: aChar |
  | half outerspaces innerspaces |
  | outerspaces := aChar asInteger - $A asInteger + 1. |
  | innerspaces := aChar asInteger - $A asInteger - outerspaces + 1. |
  | half := String |
  | stream |
  | nextPutAll: (self displaySpaces: outerspaces); |
  | nextPut: aChar; |
  | nextPutAll: (self displaySpaces: innerspaces); |
  | ^ half, half allButLast reversed
```

BenComan: Today at 1:58 PM
Can you show what you do get?
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?
Once you get past the missing tab message you aren't completely 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 ...

(Pharo 7.0.3) StdOutputStream>>peek (on stdin) returns a byte instead of a character #4173

FWIW, this implementation satisfies my needs:

tab

\^ self nextPutAll: String tab

As with #4173, take a look at wrapping stdout with a \ZnCharacterWriteStream\ and \ZnNewLineWriterStream\.

@akgrant43 thanks a lot.
What if you 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

```plaintext
allRangesOfSubstring: aSubstring

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

\[\text{Array streamContents: } \begin{array}{c|c|}
\text{s} & \text{start} & \text{subSize} \\
1 & \text{start} & \text{subSize} := \text{aSubstring size.} \\
\text{[start isZero]}
\end{array}\]

whileFalse: [ start := self findString: aSubstring startingAt: start. 
start > 0 
ifTrue: [s nextPut: (start to: start + subSize - 1). 
start := start + subSize]]]
```
When you contribute to open-source you improve your visibility.
[ Remember ]

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