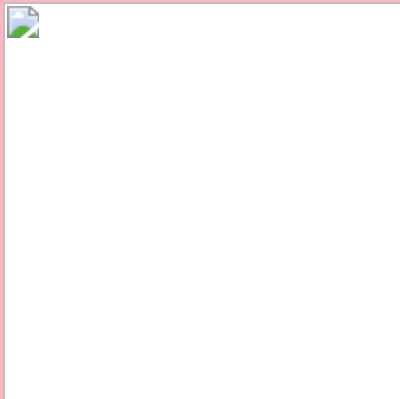


Learning Elixir and Erlang with Advent of Code and Exercism: advantages and challenges

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Presentation script

- Who am I?
- What is Advent of Code?
- What is Exercism?
- What is good/bad in AoC/Exercism?
- **How to use AoC and/or Exercism to learn Erlang and/or Elixir?**

Who am I?

- Professor at the [Federal University of Technology – Parana \(UTFPR\)](#)
- Co-host of [Elixir em Foco \(Elixir in Focus\)](#) podcast (in Brazilian Portuguese)
- Member of the [Education, Training, & Adoption Working Group of the Erlang Ecosystem Foundation](#)
- [YouTube EN](#), [YouTube PT](#), [Instagram](#), [Telegram](#), [GitHub](#), [Twitch](#), [TikTok](#)...

Which are the difficulties in learning Elixir and Erlang?

- Common programming pitfalls
- Erlang/Elixir pitfalls
 - Functional programming concepts
 - Syntax details
 - Not knowing the best practices of the communities
 - Concurrency/OTP (difficult by itself)

What helps? (in my opinion)

- Reading [books](#) or well-structured materials ([Elixir School](#))
- Having a mentor
- Chatting with other people
- Participating in the community
 - [Elixir Forum](#)
 - [Erlang Forums](#)
 - [#MyElixirStatus](#), [#ElixirLang](#), [#WeBEAMtogether](#), [#Erlang](#)
 - [Elixir World](#)
- Listening to [podcasts](#)
- What else?

What helps? (in my opinion)

- Putting knowledge into practice - just a little bit above your current level
- Write code idiomatically, the way more experienced people in the community write

Which is most used? I don't know, but...

"Have you ever solved an Advent of Code or an Exercism challenge?"



What is the Advent of Code?

- Website: <https://adventofcode.com/>
- Wikipedia: https://en.wikipedia.org/wiki/Advent_of_Code
- Creator: [Eric Wastl](#)
- Annual “event” that goes from December 1st to December 25th
 - It's a kind of competition
 - There are private leaderboards
 - What counts for the ranking is who finds the answer, usually a number, first
- So the time zone counts.

Me in Advent of Code

- 2021: 1 to 10, 13 and 14 - total $12 \times 2 = 24$
- 2020: 1 to 9 and part 1 of day 10: total 19
- 2019: 1 and 2. Total: 4

Where I am saving my solutions as of 2021

<https://github.com/adolfont/pensandoemelixer/tree/main/adventofcode/>

Important!

- Relatively long description (631, 577, 1002)
- Pay close attention to the wording!
 - [Day 2 Part 1 2019](#)
 - *"To do this, before running the program, replace position 1 with the value 12 and replace position 2 with the value 2."*
- Undisclosed difficulty
- Ad-hoc solutions

What is Exercism?

- Created by [Katrina Owen](#)
 - read <https://www.kytrinyx.com/exercism/> !!!
 - and <https://en.wikipedia.org/wiki/Exercism>
- Exercises + free mentoring
- It gives you short descriptions (72, 96, 172)
- It provides you with tests for your programming language
- Current version: version 3

Access [https://exercism.org/https://exercism.org/](https://exercism.org/)

Mentoring example

Private link:

<https://exercism.org/mentoring/discussions/ad416ef10f1e42b4b97445f2ee672f53>

José Valim and the Advent of Code

- José Valim's Twitch: 2018 and 2021
- Sekun's YouTube playlist with shorter, edited versions of Valim's videos
 - Support SEKUN

Good/bad in AoC

- What's good about AoC?
 - Community (Twitter, Elixir Forum and Erlang Forums)
- What is "bad" in AoC?
 - Weekends! *But [SpawnFest](#) too :)*
 - December! *Spring/Summer in the Southern Hemisphere*
 - Some challenges require (a lot of) prior knowledge (programming competitions)
 - Is there a stimulus to write unreadable code?

Good/bad in Exercism

- What is good about Exercism?
 - mentoring
 - tests
 - automatic feedback
- What is "bad" in Exercism?
 - the tests are already there
 - It is impossible to do TDD
 - v3 kind of discourages mentoring (debatable)

What have I learned? 1/3

- Use of Enum (Valim) #aoc #elixir
 - *There's an Enum function for that!*
- Lots of pipes!
- Functions with the same name but different arity, one being public and the other private #erlang #exercism
- Various uses of **list comprehension**:

```
[command(S) || S <- string:split(String, [$\n], all), S != ""].
```

What have I learned? 2/3

- `case` `#erlang` `#aoc`
- `read, understand and run code from others` `#erlang` `#aoc`

What have I learned? 2/3

- `re:split`

How to use AoC to learn Erlang and/or Elixir?

- During December:
 - Set a time limit
 - Try to do both tasks for the day
 - If you can, read others' solutions (on Elixir Forum or Erlang Forums)
 - If not, then either give up or try to complete it another day

How to use Exercism to learn Erlang and/or Elixir?

- Join the two tracks
- Ask for mentorship whenever possible
 - You can do that with the link
- Look at other people's solutions
- Share your solution on the platform

Final Tips

- "Sharpen the Saw" (Habit 7 - Sharpen the Saw)
- Exercise to stay in shape

Announcements

Code BEAM A Corunha

<https://www.codebeamcorunha.es>

Code BEAM Brasil

<https://www.codebeambr.com/>

Elixir Brasil

<https://elixirbrasil.com/>

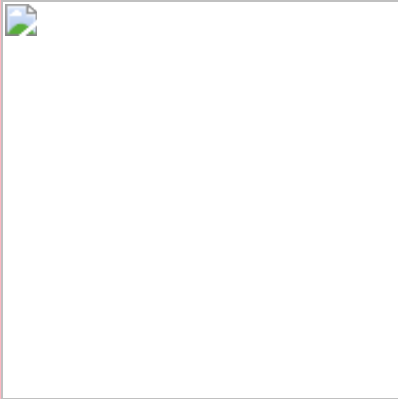
10 Years of Elixir

You can watch the recording!

<https://bit.ly/10YearsOfElixir>

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Slides