Building a Programming Language

Introduction to LPeg

BUILDING A
PROGRAMMING
LANGUAGE
ART BY YURIJACOBSEN

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Today's Plan

1. PEG Deep Dive
   - Why PEGs Lecture
   - PEG exercises (white space, greedy vs possessive)

2. Q&A

3. Preview: Arithmetic Expressions

Why PEGs

→ Alternatives

→ Benefits

→ Use Cases

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Let's test our knowledge of PEGs

White spaces mirroring solo

➜ 5-minute solo activity

➜ If you implemented one way in your homework write it in another way.

White spaces mirroring group discussion

➔ 10-minute group activity

➔ Discuss difference in whitespace implementation 3 groups

  ◆ Pros / Cons

  ◆ Challenge of rewriting

  ◆ Is there a best solution?

➔ Pick 1 person from your group to share your 1-3 discussion insights

White spaces Rapid-Fire Sharing

➔ 1 member from each group shared 1-3 insights

➔ Pick another group

➔ 3 minutes

Greedy vs Possessive exercise (10-minbreakout)

```
print(("AAABAAA:B"):match(".*:"))
--> AAABAAA:
```

1. Rewrite the Lua expression above in LPeg.

2. What happens in both expressions (Lua and LPeg) if the subject is ("AAAB:AAA:B")?

Rapidfire Share your feedback
Greedy vs Possessive exercise

- One person from each group

- Please summarize how you see the difference between greedy vs possessive

Greedy vs Possessive

➔ Why it's good

➔ Examples (non possessive examples with pegs, default behavior)

➔ See link to a paper that explains this in detail

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Arithmetic Expressions

Q&A