

PEP Scala (4)

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Slides & Code: KEATS

Office Hour: Thursdays 13:00 – 14:00 (send email first)

Location: N7.07 (North Wing, Bush House)

Last Week: Pattern Matching

```
def fizz_buzz(n: Int) : String =  
  (n % 3, n % 5) match {  
    case (0, 0) => "fizz buzz"  
    case (0, _) => "fizz"  
    case (_, 0) => "buzz"  
    case _ => n.toString  
  }
```

Last Week: Pattern Matching

```
def mkeys(r: Rexp) : Val = r match {  
  case ONE => Empty  
  case ALT(r1, r2) => ...  
  case SEQ(r1, r2) => ...  
  case STAR(r) => ...  
  case RECD(x, r1) => Rec(x, mkeys(r))  
  ...  
}
```

Reverse Polish Notation

$$(3 + 1) * (2 + 9)$$

\Rightarrow

$$3 \ 1 \ + \ 2 \ 9 \ + \ *$$

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$(3 + 1) * (2 + 9)$

\Rightarrow

3 1 + 2 9 + *

ldc 3

ldc 1

iadd

ldc 2

ldc 9

iadd

imul

Regular Expressions

Suppose you have the regular expression $(a^*)b$:

”aaaaaaaaaaaaaaaaab”

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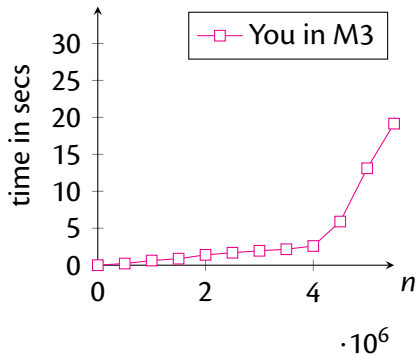
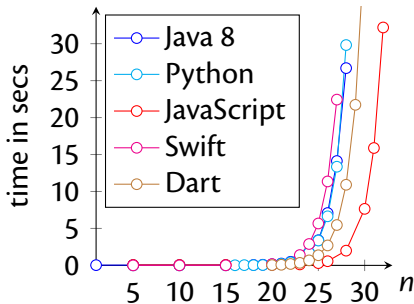
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”aaaaa.....aaaaaaaaaaaaaaaaaaaaa”

How long does Python need to find out?

Main 3: Regexes

Graphs: regex $(a^*)^*b$ and strings $\underbrace{a \dots a}_n$



<https://vimeo.com/112065252>