

PEP Scala (5)

Email: christian.urban at kcl.ac.uk

Slides & Code: KEATS

Office Hour: Thursdays 13:00 – 14:00

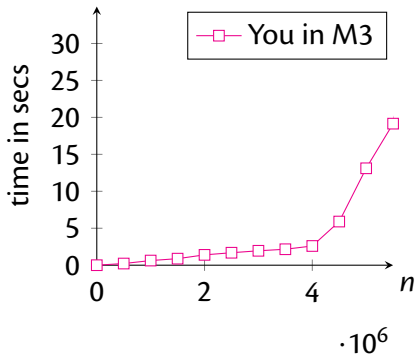
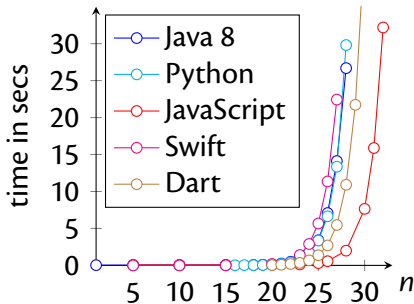
Location: N7.07 (North Wing, Bush House)

Housekeeping

- SGTs still ongoing next week

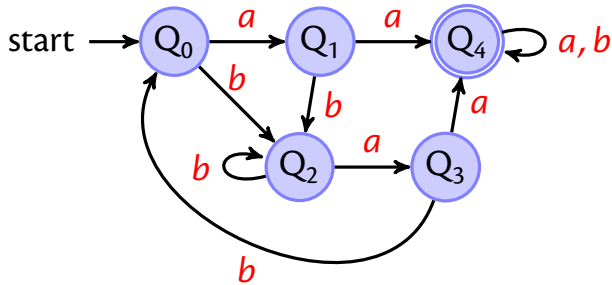
Main 3: Regexes

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



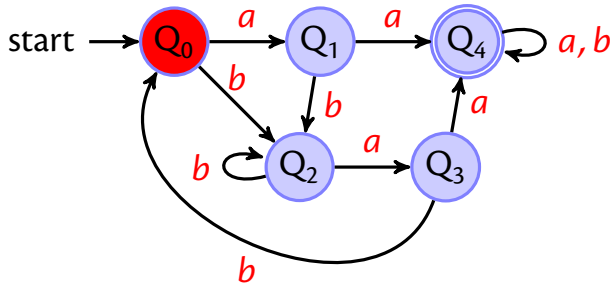
<https://vimeo.com/112065252>

DFAs



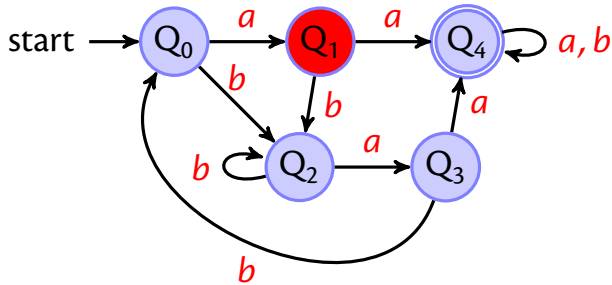
abaaaa

DFAs



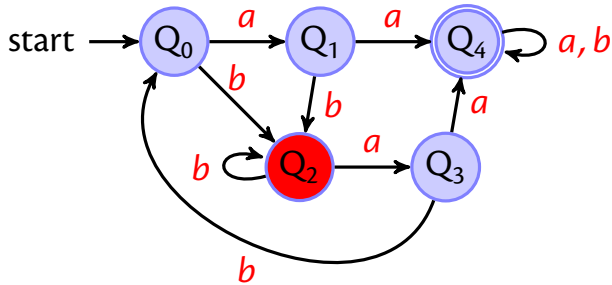
abaaaa

DFAs



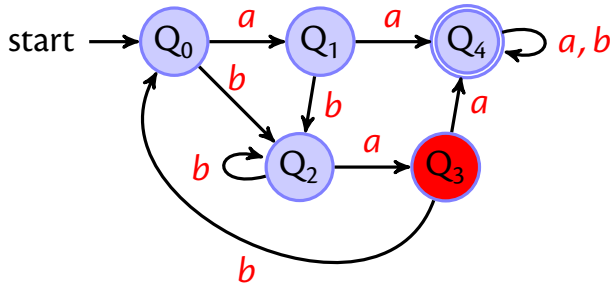
abaaaa

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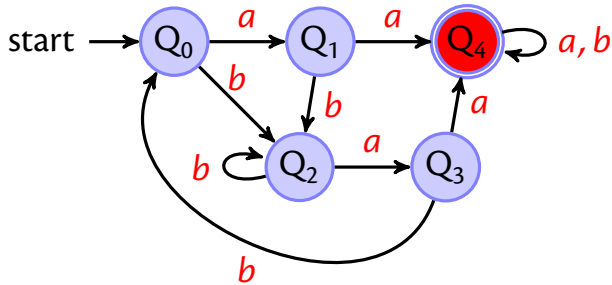
abaaaa

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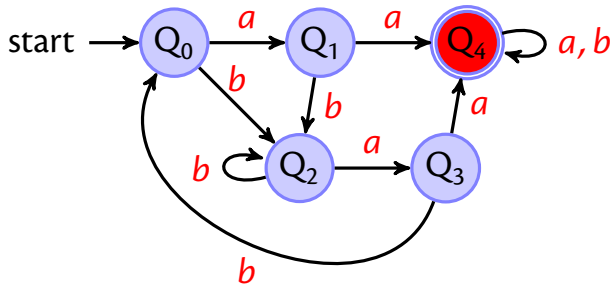
*aba*aa

DFAs



abaaa

DFAs



abaaaa \Rightarrow *yes*

DFAs

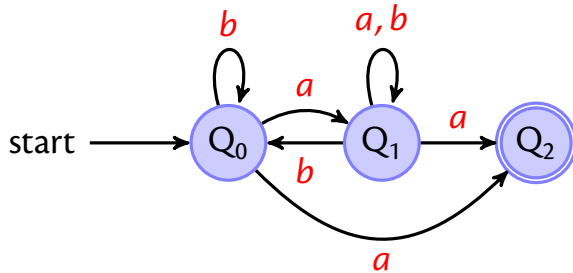
A **deterministic finite automaton** (DFA) consists of 5 things:

- an alphabet Σ
- a set of states Q_s
- one of these states is the start state Q_0
- some states are accepting states F , and
- there is transition function δ

which takes a state and a character as arguments and produces a new state; this function might not be everywhere defined

$$A(\Sigma, Q_s, Q_0, F, \delta)$$

NFAs



Where to go on from here?

- Martin Odersky (EPFL) developed Scala
- I use Ammonite by Haoyi Li
- Elm (<http://elm-lang.org>)...web applications with style
- Haskell, Ocaml, Standard ML, Scheme, ...



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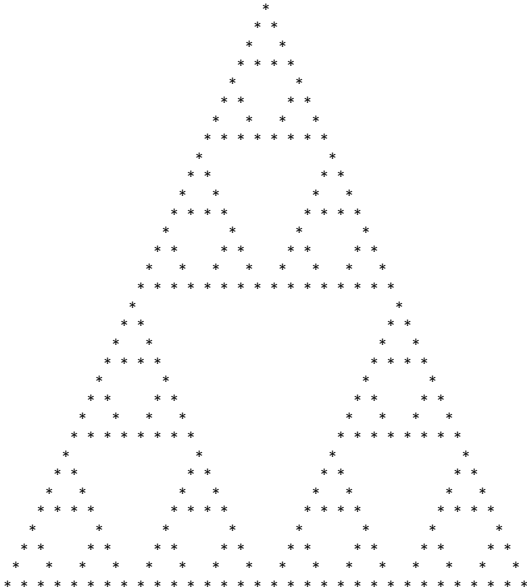
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C++, Scala, PHP, Python, Perl, Bash



Questions?



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