Compilers and Formal Languages

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Office Hour:	Friday 12 – 14
Location:	N7.07 (North Wing, Bush House)
Slides & Progs:	KEATS
Pollev:	https://pollev.com/cfltutoratki576

For Installation Problems

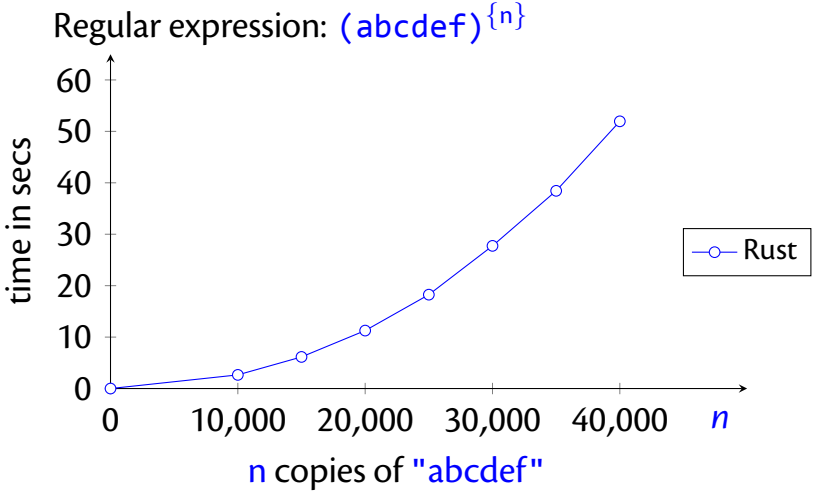
- Harry Dilnot (harry.dilnot@kcl.ac.uk)
  Windows expert
- Oliver Iliffe (oliver.iliffe@kcl.ac.uk)

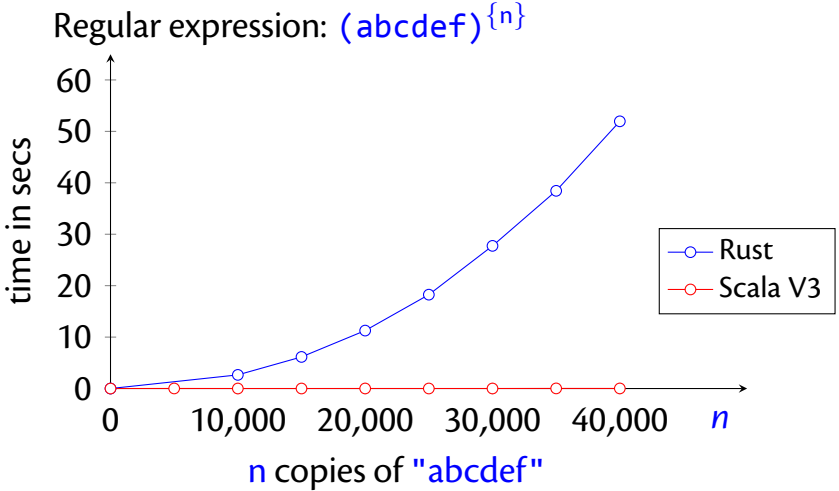
From Pollev last week

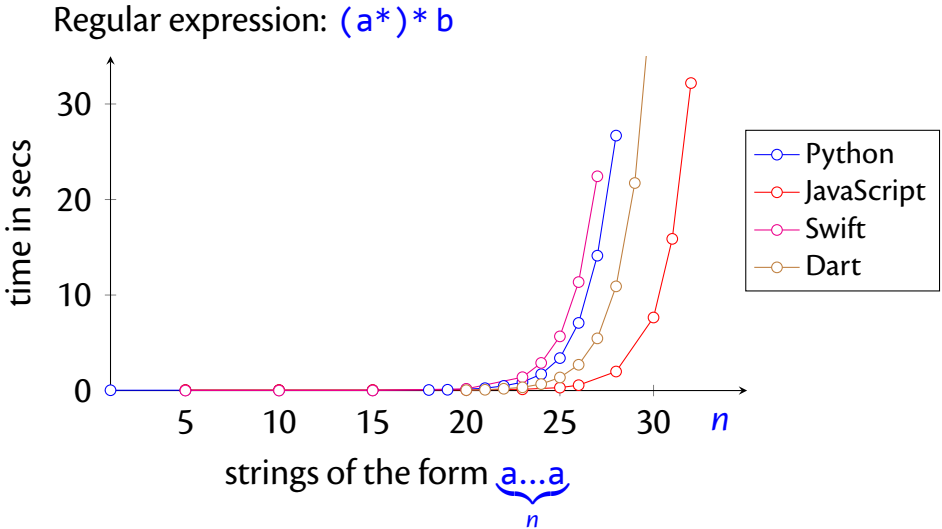
Is the equivalence of two regexes belong in the P or NP class of problems?

From Pollev last week

If state machines are not efficient, then how/why do many lexer packages like the logos crate in rust compile down a lexer definition down to a jump table driven state machine? Could we achieve quicker lexing with things like SIMD instructions?


Regular expression: (abcdef){n}
time in secs
60
50
40
30
20
10
0
0
10,000
20,000
30,000
40,000
n
Rust
n copies of "abcdef"


Regular expression: (abcdef){n}
time in secs
60
50
40
30
20
10
0
0
10,000
20,000
30,000
40,000
n
Rust
Scala V3
n copies of "abcdef"


Regular expression: (a*)* b
time in secs
0
10
20
30
5
10
15
20
25
30
n
strings of the form a...a
n
Python
JavaScript
Swift
Dart