Section 1: Intro & RegEx

Apollo, Jack, Morel, Robert

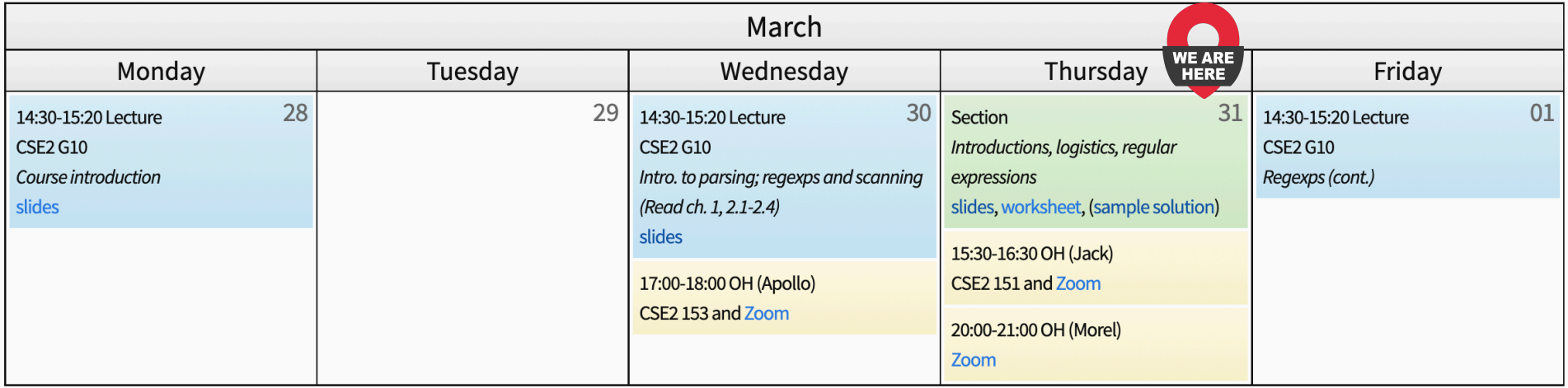
Adapted from Autumn 2020, 2021

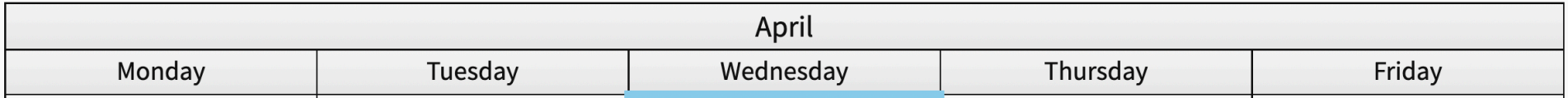
Agenda

- Announcements
- Getting to know each other
- Regular Expressions (Review + Worksheet)
- Partner Finding

Announcements

- Due Tuesday 4/5: Project partner info
  - Check Ed discussion board if you need a partner!
- Due Thursday 4/7: HW1 (Regular Exps)





Section AA - TA Intro

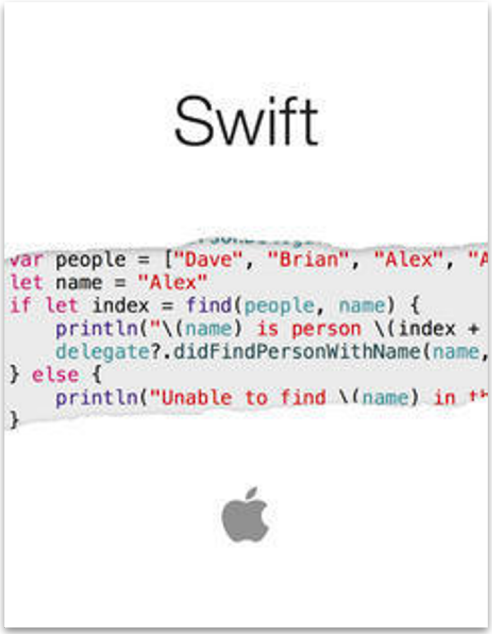
- Robert Burris (rlburris@cs.washington.edu)
- Junior Computer Science Student
- Interests: Compilers, Distributed Systems, Operating Systems
- Went to California to go bikepacking

Section AA - TA Intro

- Morel Fotsing (morelt98@cs.washington.edu)
- Senior Computer Engineering Student
- Interests: Compilers, Machine Learning, Natural Language Processing
- Played Video Games and moved this Spring Break

Section AB - TA Intro

- Apollo Zhu (they/any)
- Junior in Combined BS/MS, starting MS this summer
- Interest in iOS development and
  the Swift™ Programming Language
- I got my wisdom teeth removed during Spring break



Section AB - TA Intro

- Jack Zhang
- 5th year master student, graduating in June
- Interests are programming languages/verification
- What I did during spring break: Elden Ring

Icebreakers

- State your:
  - Name (Pronoun)
  - Year
  - What you're studying (major / minor / field(s) of interest / research project)
  - What you did during spring break

RegEx Worksheets!

Answers

Problem 1i

1) Describe the meaning of each of the following regular expressions in English and give two different strings it can produce:

i) (1 | 0)* 0

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i) (1 | 0)* 0

Non-empty binary strings ending with 0

Problem 1ii

1) Describe the meaning of each of the following regular expressions in English and give two different strings it can produce:

ii) ([A-Z][a-z]* | [0-9]+)

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ii) ([A-Z][a-z]* | [0-9]+)

Sequence of lower case letters with first letter upper cased or sequence of base 10 digits

Problem 1iii

1) Describe the meaning of each of the following regular expressions in English and give two different strings it can produce:

iii) (ε | 4?0+1* X 3+)

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iii) (ε | 4?0+1* X 3+)

Two strings that can be produced: 401 X 333 or empty string

Problem 2i

2) Write a regular expression for each of the following specifications:

i) All strings consisting of 0’s and 1’s (binary digits) with an even number of 0s

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1* (0 1* 0 1*)*

Problem 2ii

2) Write a regular expression for each of the following specifications:

ii) camelCased variable name in Java, where the alphabet is upper and lower-cased letters without any numbers or underscores

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[a-z]+([A-Z][a-z]*)*

Problem 2iii

2) Write a regular expression for each of the following specifications:

iii) Non-empty binary strings where each 1 directly follows a 0 (challenge: only use symbols in table up until *)

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2) Write a regular expression for each of the following specifications:

iii) Non-empty binary strings where each 1 directly follows a 0 (challenge: only use symbols in table up until *)

Challenge 1: (0 | 01) (0 | 01)*

~~Challenge 2 (no or): 0 (0* (0 1))* 0*~~

Normal: (0+1?)+

No, this omits “01”; I actually don’t see a solution, tho there is if we change problem to allow empty strings.

Still Need a Partner?

Stay to potentially find someone in this section to work with on the compiler project

Discuss your preferences, e.g.

- **In person/remote collaboration**
- **Morning/afternoon/evening**
- **Pair programming, joint planning + solo, or other collaboration styles**
- **…**