Object Oriented Programming

Semester 2 (2019-20)

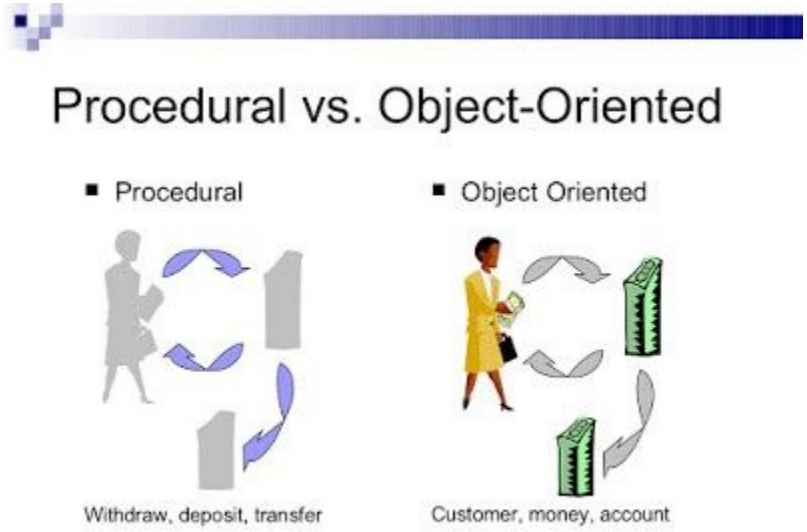
Volker Seeker

http://www.volkerseeker.com

THE UNIVERSITY *of* EDINBURGH

Course Overview

Why Object Oriented Programming?



- learn an additional widely used programming paradigm

  ⇒ a new way to approach a problem

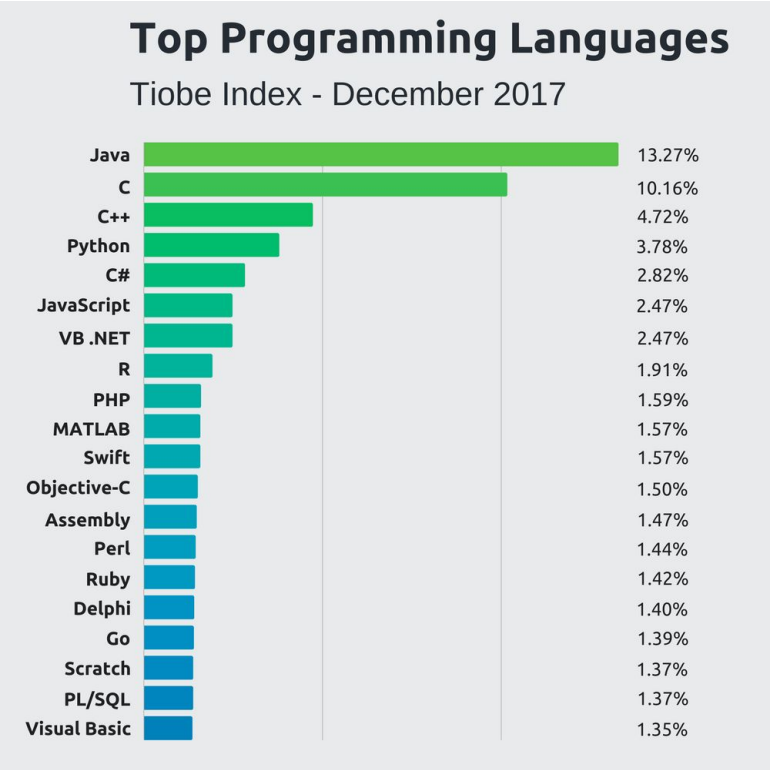
- get more practice at learning new languages

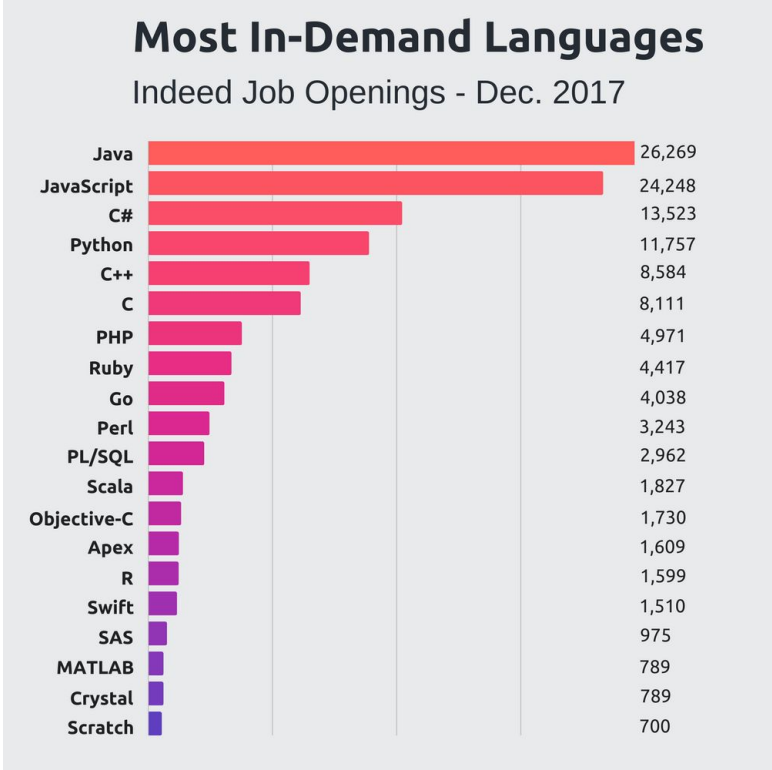
Why Java?

- Decently designed OO language
- Strong static typing
- Very popular
  - Huge ecology of libraries, frameworks and tools
  - High demand for later jobs

We are using **Java version 11**

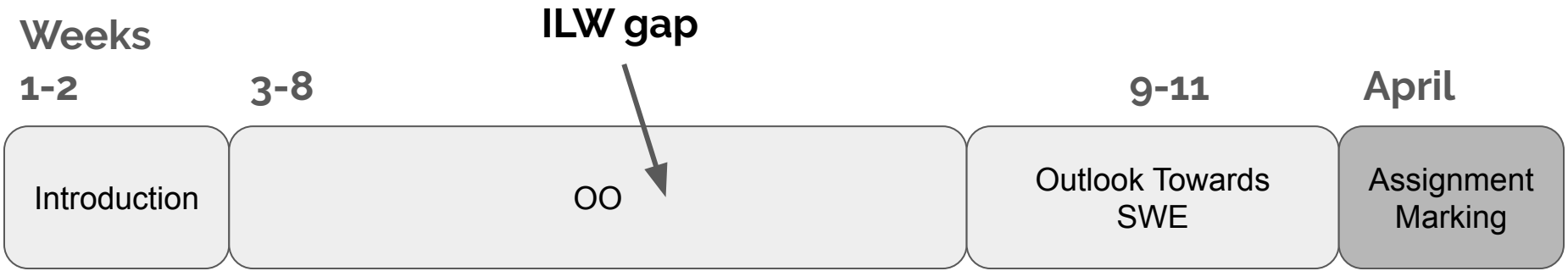
Why Java?





- https://stackify.com/popular-programming-languages-2018/
- https://www.tiobe.com/tiobe-index/

Schedule


Weeks
1-2
3-8
ILW gap
9-11
April
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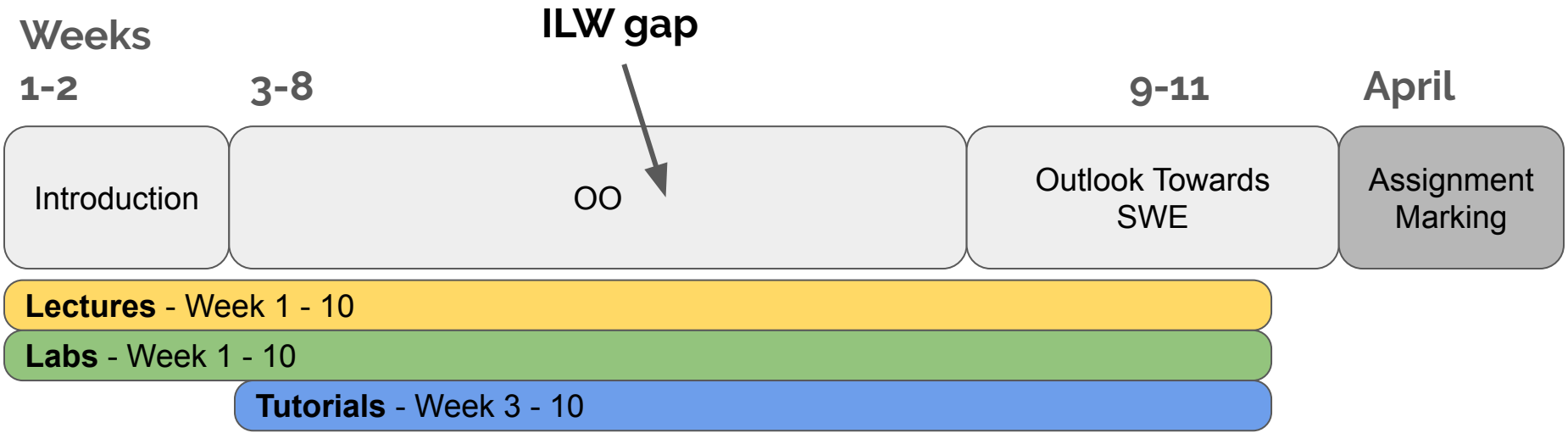
OO
Outlook Towards SWE
Assignment Marking

Weekly Events

- two **lectures**
- one 2 hour **lab**
- one 1.5 hour **tutorial**

Schedule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Lectures

Lectures

- 10:00 - 10:50 Tuesdays
- 11:10 - 12:00 Thursdays

Learn Concepts and Techniques

- Target audience: You have taken INF1A
- I like to use *active learning* during lectures
- recorded as usual and accessible via Learn

Labs

Labs

- Starting this week
- Automatic allocation

Regular Practice

- Regular exercises to improve your skills
- Can be carried out during lab session
- Demonstrators available during session for support
- You can work from home if you feel confident enough (**but know how to work with DICE!**)
- Labs are all available already
- Extra week of labs to catch up

Labs

Labs

- Starting this week
- Automatic allocation

Regular Practice

- In 5.05 and 6.06 Appleton Tower
- Allocation is to manage space, feel free to turn up to other slots, but ...
  - ... if you have a clash for your allocated slot, make sure you get it changed by the ITO
  - ... if there are not enough seats, those not allocated to this lab must leave

Labs

Labs

- Starting this week
- Automatic allocation

Regular Practice

- Feedback on lab exercises:
  - Use automated JUnit tests
  - Solutions are provided online (**don't peek!**)
  - Help from demonstrators
  - Discussion with peers, on Piazza, during tutorial (**initiated by you!**)

Tutorials

Tutorials

- Starting in week 3
- Automatic allocation

Basic SWE Techniques

- Tutorials are held in large groups and focus on *cooperative learning*
- Practice basic software engineering techniques, e.g. pair programming, debugging, testing, etc.
- No intensive prep required
- Tutorials are published a week in advance
- Solutions afterwards

Tutorials

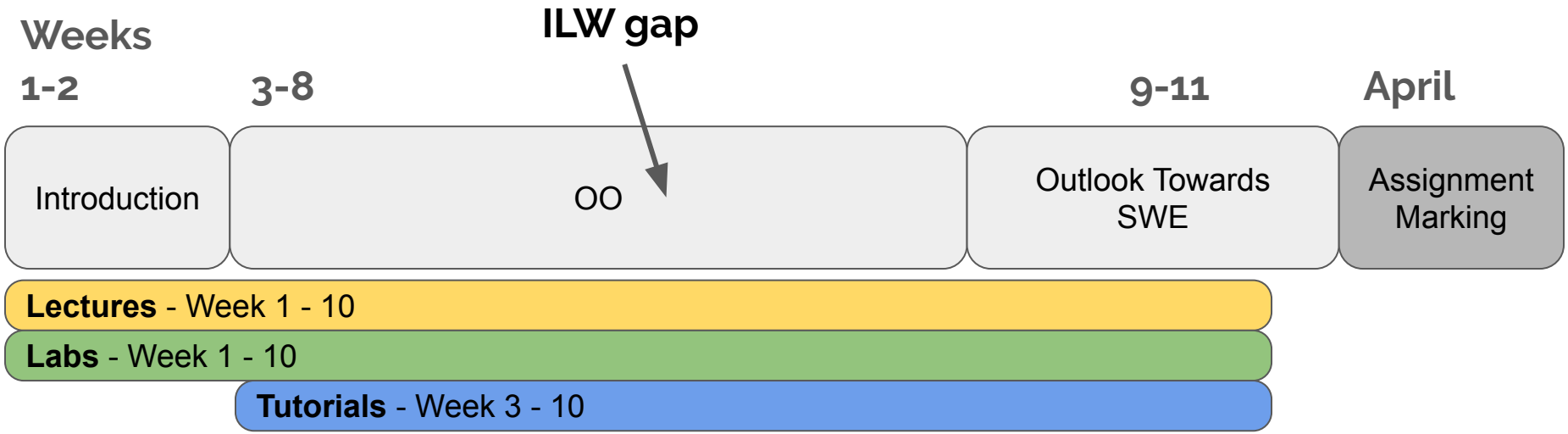
Tutorials

- Starting in week 3
- Automatic allocation

- A chance to ask questions about course content and labs
- Your tutors are your best source of feedback on your progress
- Two special sessions for feedback on assignments in week 6 and week 8

Basic SWE Techniques

Schedule



Lectures Theoretical Background

Labs Regular Exercise

Tutorials Basic SWE Techniques

Resources

1. **The Java tutorial : a short course on the basics**
2. **Objects First with Java: A Practical Introduction using BlueJ**

Available from library and ebook, see Learn page

Resources

To get you started:

- Oracle Java tutorials
- Java Language Spec
- API Spec
- Tutorials Point
- Lynda
- Stackoverflow

but there are many many sources: feel free to browse and find what suits your own style

Who to contact for help?

- **Lecturer:** Volker Seeker (office hours)
- **TA: Chris Vasiladiotis**
- **Course Page**: Learn
- **Piazza**: see Discussions link on Learn
- **Tutors and Demonstrators**
- **ITO: Laura Ambrose** AT level 6; source of all admin knowledge

Who to contact for more help?

- **Fellow Students:** feel free to work in groups
- **InfBase:** Drop in helpdesk (Link)
- **InfPals:** student-to-student study groups (Link)
- **Programming Club**: For more programming practice (Link)
- **Societies:** CompSoc or Hoppers
- **Better Informatics:** https://betterinformatics.com

Who to contact for more help?

30 Tutors and Demonstrators:

- Adam Li
- Ben Elo
- Blanca Fernandez Salamanca
- Bora Alper
- David Wang
- Diana Kessler
- Diana Tanase
- Edon Aliko
- Elisa Anguiano Amann
- Ginte Petrulionyte
- Kiyoon Kim
- Lukasz Domanski
- Michal Baczun
- Ming Jin
- Nimrod Libman
- Paul Anderson
- Paulius Dilkas
- Reece Carr
- Ricky Yuan
- Rui Zhao
- Sahaj Porwal
- Songbo Hu
- Stephen Gilmore
- Tadeusz Janik
- Theodor Amariucai
- Tomasz Horszczaruk
- Victor Stoian
- Vidminas Mikucionis
- Vlad Iordan
- Zheng Zhao

Thank You!

Vidminas Mikucionis

Victor Stoian

Samuel Macleod

Assessment

- *Formative* - labs and tutorials to help you learn and give you feedback on how you're doing.
- *Summative* - A Programming and a Code Review Assignment - **this determines your mark**.

Assessment

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No Exam!

Weekly Events

- two lectures
- one 2 hour lab
- one 1.5 hour tutorial
- from week 3 onwards, work on your assignments!

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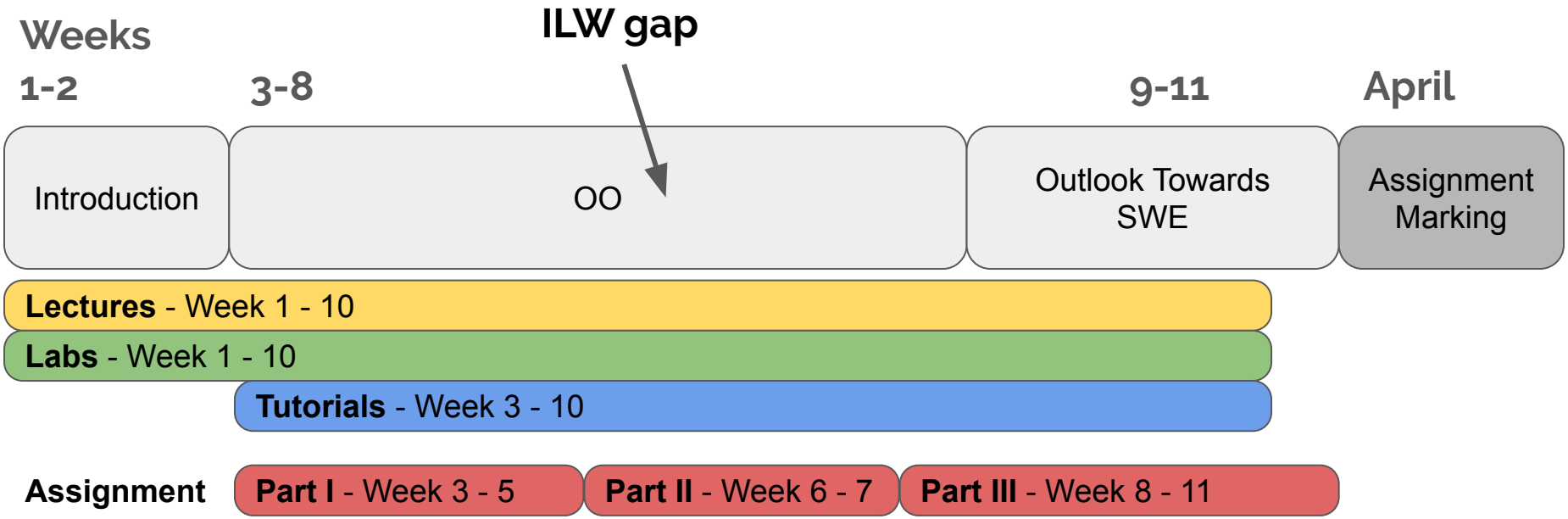
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Part II - Week 6 - 7
Part III - Week 8 - 11

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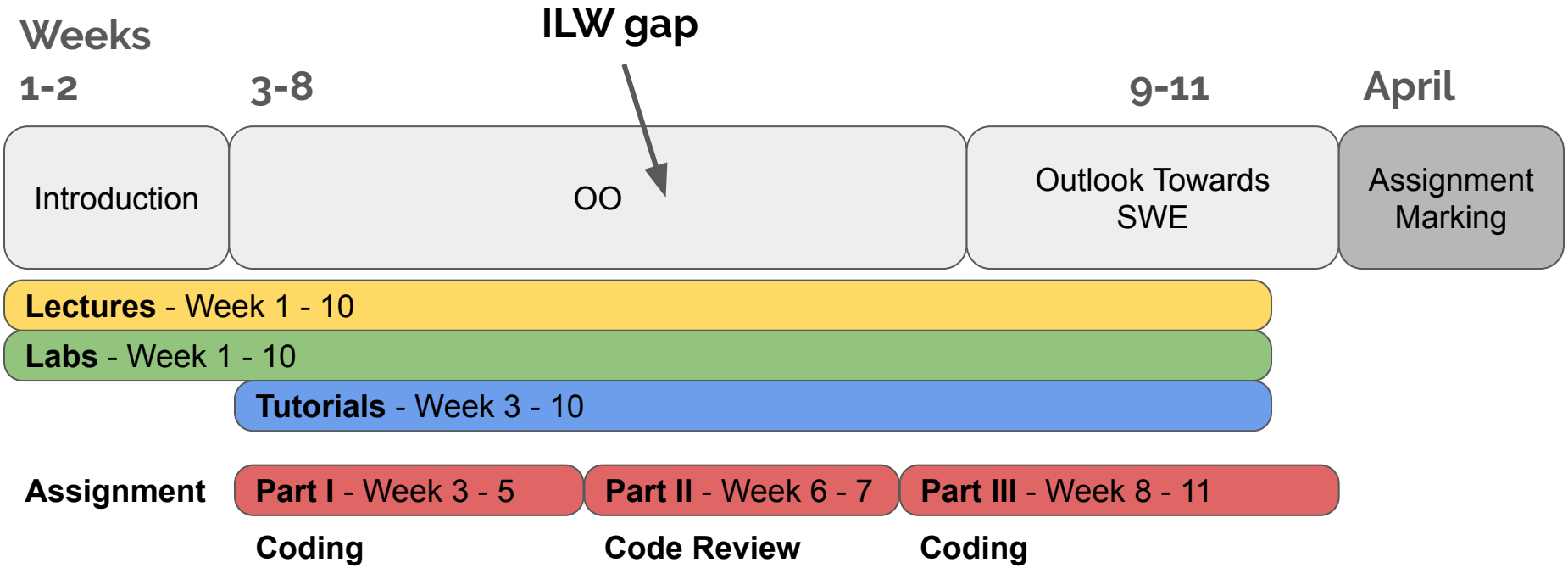
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Code Review
Coding

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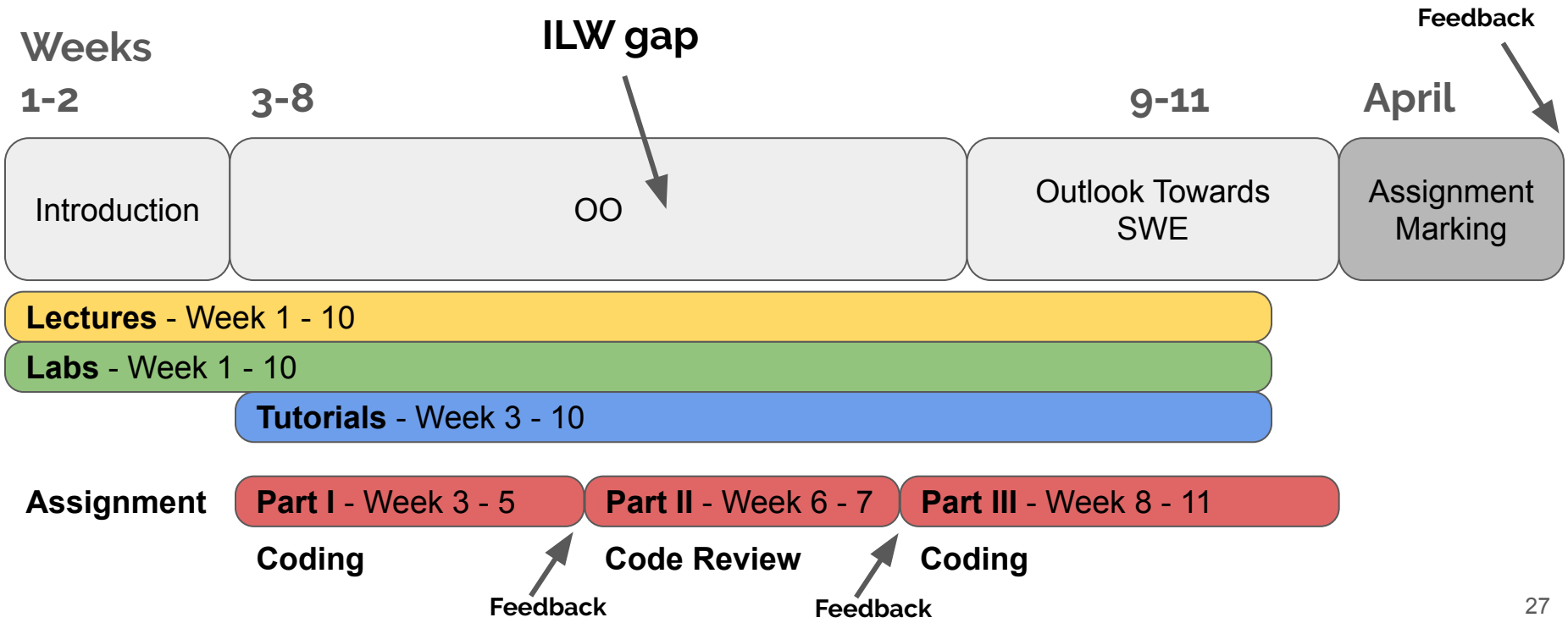
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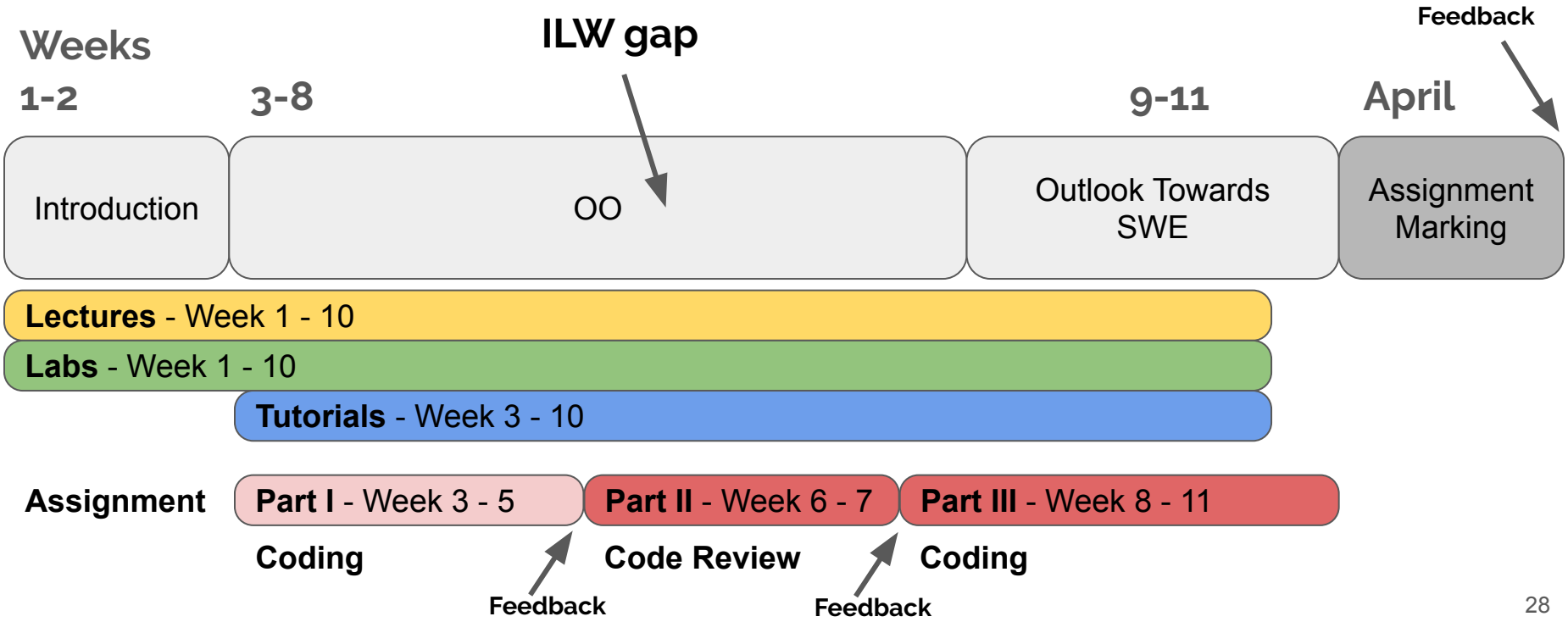
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Assessment

- *Part I* - Programming Tasks - **Formative**
- *Part II* - Code Review - **Summative** (for credit)
- *Part III* - Programming Tasks - **Summative** (for credit)

Marking Criteria

- One total mark at the end of the semester
    - Completion
    - Readability and Code Structure
    - Correctness and Robustness
    - Use of the Java Language
    - Code Review

Marking Criteria

- Marks are assigned following the Universities Common Marking Scheme
    - <40% - **Fail**
    - 40 - 49% - **Pass**
    - 40 - 59% - **Good**
    - 60 - 69% - **Very Good**
    - 70 - 79% - **Excellent**
    - >80% - **Outstanding** (and exceptionally rare)

Resit

- Inf1B is a **Core Course**
  - If you fail this course and the resit, you will have to repeat year 1
- A summer resit will be offered, likely in the form of a take-home assignment

Good Scholarly Practice

Please remember the University requirement as regards all assessed work for credit. Details about this can be found at:

http://web.inf.ed.ac.uk/infweb/admin/policies/academic-misconduct

I already know lots of Java and OO

Great - Keep Practicing!

- Make sure you really know what is taught and don't just think you do!
- There is additional material on the Lab page (advanced lab exercises)

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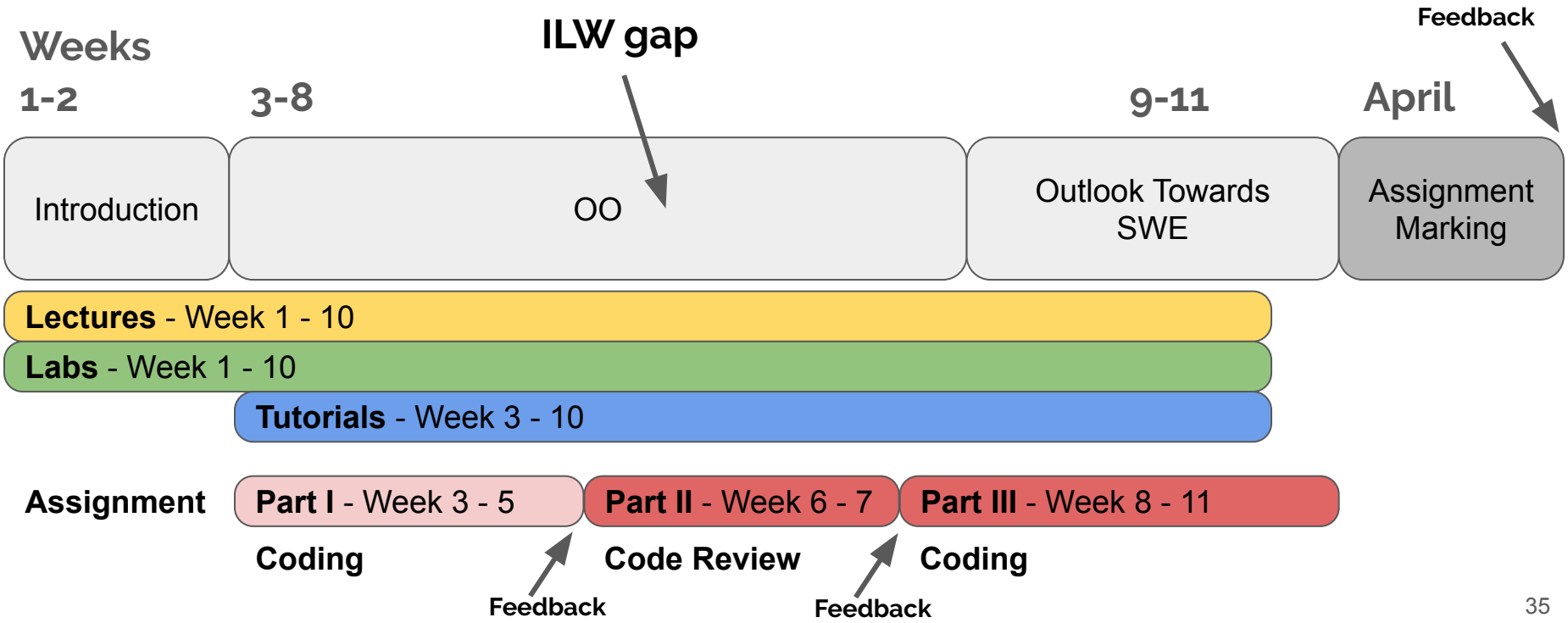
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Questions?

Sources

- https://hackernoon.com/top-5-object-oriented-programming-and-design-courses-for-programmers-ad49f0870de4
- https://stackify.com/popular-programming-languages-2018/
- https://www.tiobe.com/tiobe-index/
- https://www.theodysseyonline.com/your-brain-is-muscle-exercise-it