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HONG KONG BAPTIST UNIVERSITY

COMP2045

Programming and Problem Solving

Course Introduction

This course is colocated with *COMP2026* Problem Solving using Object Oriented Programming

Teaching Staffs

Instructor

- Dr. Kevin Wang King Hang
  - Office: RRS712
  - Tel: 7704
  - Email: kevinw@comp.hkbu.edu.hk
- I speak Cantonese, Mandarin, English, C++, Java, markdown, SQL
- I spoke latex, bash script, kotlin, Python, php, js, C, C#, ASP, VBA, matlab

Teaching Staffs

Lab Instructor

- Mr. Mandel Chan
  - Office: RRS637
  - Tel: 5556
  - Email: mandel@comp.hkbu.edu.hk

Teaching Staffs

Teaching Assistant

- Mr. KWONG, Karsten Hok Ning
  - Office: FSC901B
  - Email: karsten@comp.hkbu.edu.hk
- Mr. Zhang Xinyi
  - Office: DLB625G
  - Email: csxyzhang@comp.hkbu.edu.hk
- Ms. HUI, Echo (Grading assignments/in-class quizzes)
  - Office: FSC801F
  - Email: echohui@comp.hkbu.edu.hk

Course Structure

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COMP2026

- 4-units course.
- 6 hours a week
- Last for 13 weeks
- Mainly for students who had taken COMP2026 before to retrieve a better grade

COMP2045

- 2-units course
- 6 hours a week
- Last for 7 weeks (first half)

COMP2046

- 2-units course
- 6 hours a week
- Last for 6 weeks (second half)

New study pattern!

COMP2045/COMP2046 students should choose their courses matching with their section!

Lectures

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Section 1

- Lecture:
  - Tuesday. 12:30-14:20
  - Thursday. 15:30-17:20
- Lab:
  - Wednesday. 13:30-15:20

Section 2

- Lecture:
  - Monday. 14:30-16:20
  - Thursday. 11:30-13:20
- Lab:
  - Wednesday. 16:30-18:20

Course Material

- Moodle
- Discord
  - Linkable from Moodle
- Flipped lecture
  - Self studied notes (must read)
  - Explained with Youtube Video
- Trinket.io

Reference Books

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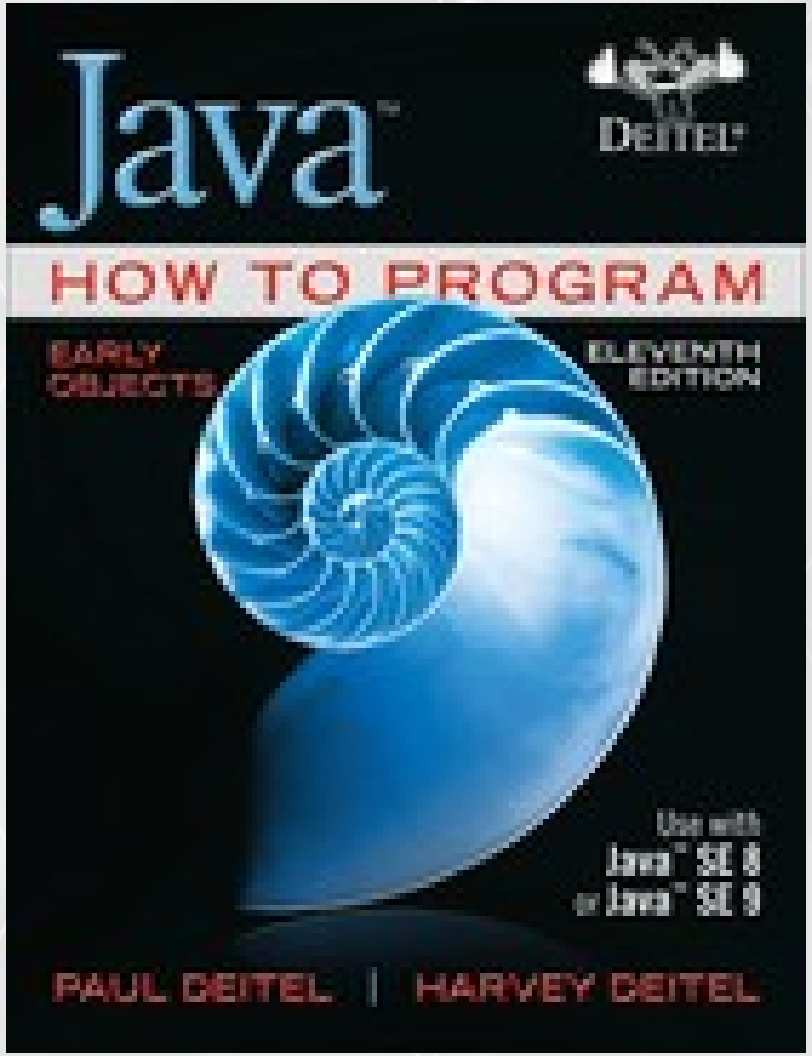
Java How To Program (Early Objects)
by **Paul J. Deitel and Harvey Deitel**



Reference Books

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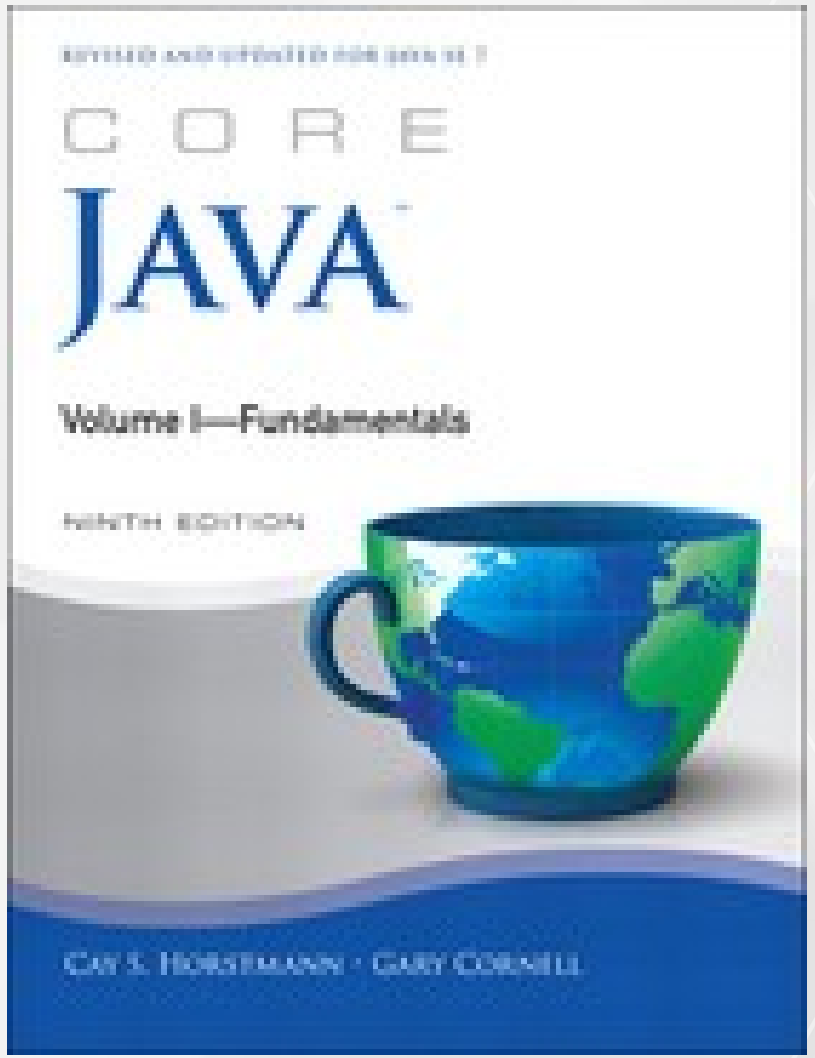
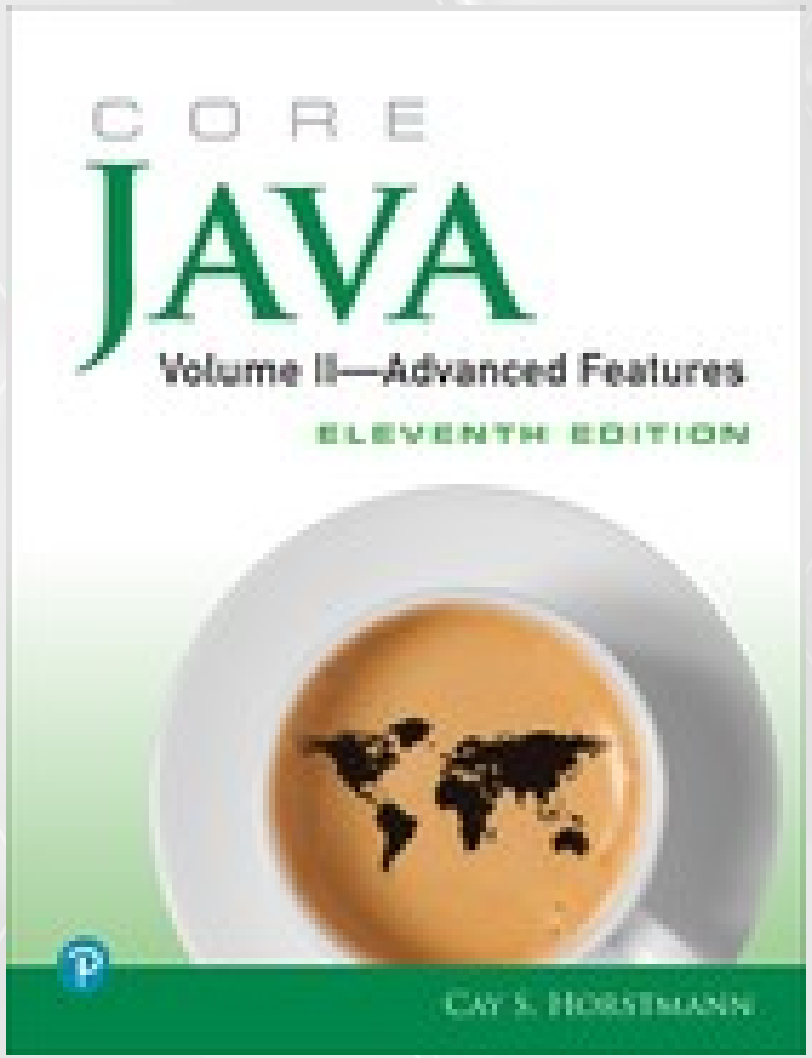
[Core Java Volume I--Fundamentals](#)
[Core Java, Volume II--Advanced Features](#)
by **Horstmann**





Courses that include OOP as prerequisite

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Core

- COMP2015 Data Structures and Algorithms
- COMP2016 Database Management
- COMP2017 Operating Systems
- COMP3015 Data Communications and Networking
- COMP3047 Software Engineering

Electives

- COMP3026 Digital Media Computing (require 2015)
- COMP4025 Interactive Computer Graphics (require 2015)
- COMP4037 E-Technology Architectures, Tools and Applications
- COMP4057 Distributed and Cloud Computing (require 3015)
- ...

either COMP2045/COMP2026

Top priority is expected

- This is a four-units course.
- Failing this will severely affect your study plan.
  - And we did fail students, very often, a lot, repeatingly.
- Can't do a FYP without any programming skill.
- HKBU students can program!
- No group project for free rider.
- Heavy continuous assessment. Passing exam is not a sufficient condition to pass. Failing in continuous assessment is a sufficient condition to fail.

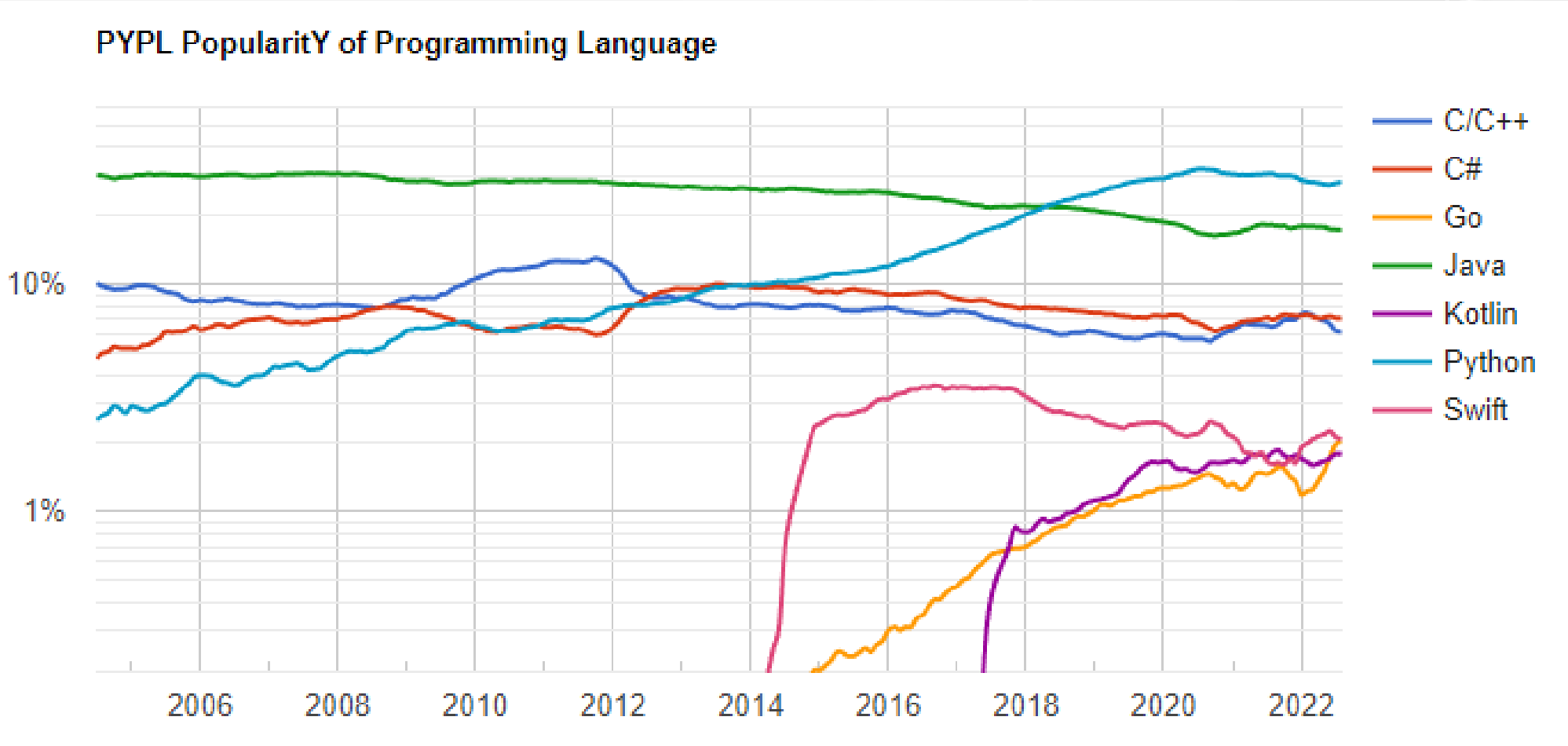
Key to success

Learning programming isn't easy.

- Attend all labs
- Follow us on Discord
- Ask us
- Practice more!
- Plan your time for assignment

👨‍🏫💬 Let us carry you!

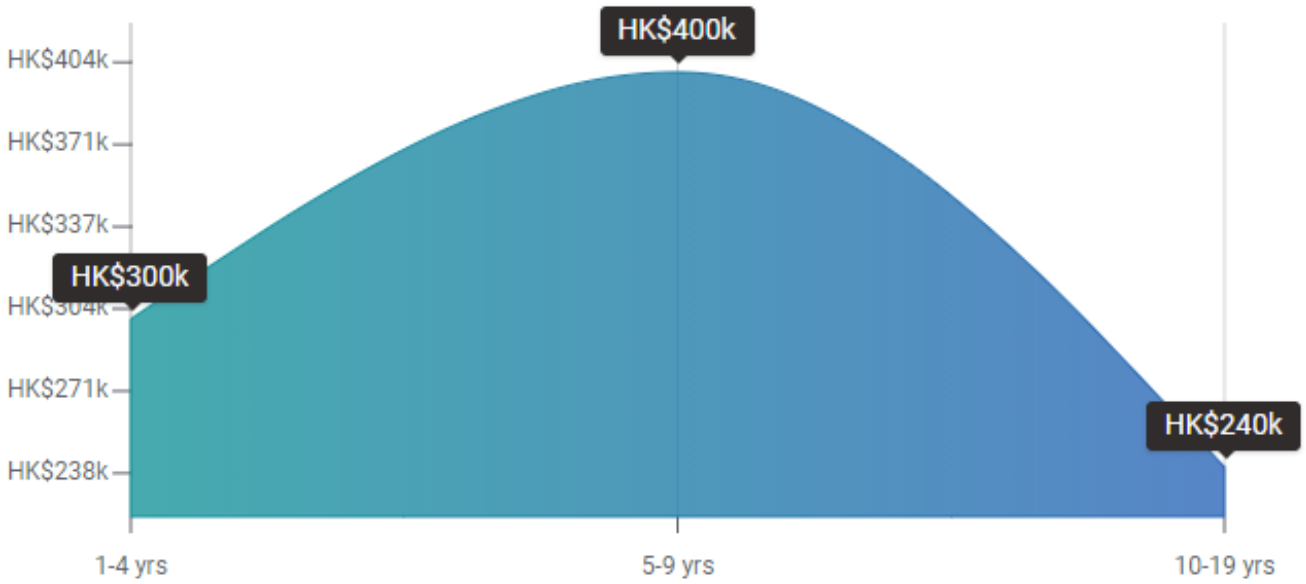
Java is still very hot



Java is still very hot

src: www.payscale.com

What is the Pay by Experience Level for Java Developers?



Early Career	▼ 4%
Mid Career	▲ 28%
Late Career	▼ 23%

An early career Java Developer with 1-4 years of experience earns an average total compensation (includes tips, bonus, and overtime pay) of HK$300,000 based on 13 salaries. A mid-career Java Developer with 5-9 years of experience earns an average total compensation of HK$400,000 based on 5 salaries. An experienced Java Developer with 10-19 years of experience earns an average total compensation of HK$240,000 based on 3 salaries. Read less

Mother tongue spoken in different CS dept

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C++

- HKUST
- CityU

Java

- HKBU
- CUHK
- PolyU
- HKU

not in a particular order, non-exhaustive list

Tentative Assessment Scheme

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Items	COMP2026	COMP2045	COMP2046
Assignments	3 x 7%	1 x 14%^	2 x 14%
MC Quizzes	5%	1 x 10%	-
Practical Tests	2 x 8%	1 x 15%	1 x 15%
Lab Exercise	12%	15%	11%
In-class Quizzes	6%	6%	6%
Final Exam	40%	40%	40%

^Some students may have an additional assignment.

Topics to Cover

1. Bridging from Python
2. Problem Solving with Java
3. String
4. Array
5. Methods
6. Exception Handling and File IO
7. Class - constructor/ attributes/methods
8. Class - access modifier/static
9. Inheritance
10. Polymorphism
11. Interface and Lambda expression
12. Recursion and Revision

Academic Honesty

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The University staunchly upholds the principles of academic integrity. As one part of HKBU's effort to prevent plagiarism, the software Turnitin is used to compare all assignments against multiple sources whenever appropriate. A report on each assignment is generated that includes a percentage similarity and links to specific similar sources. Turnitin does not conclusively prove whether or not an assignment is plagiarized – the faculty will make this determination.

Academic Honesty

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To make sure you do not commit any kind of academic dishonesty/plagiarism:

- Do not copy any assessment from others
- Do not upload your assessment to any public repository online
- Do not send your assessment to your friends
- Do you copy any work from other website without properly citation.
- If you have doubt, consult your instructor for explicit clarification.

Official Penalty for Plagiarism

http://ar.hkbu.edu.hk/curr/avoid_plagiarism/

Penalty for Plagiarism in our Course

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- Assignment/Labs being caught for plagiarism:
  - 1st offense: zero the assignment with additional penalty, applied to **both** source(s) and copier(s).
  - 2nd offense: fail the course directly and send to the department to keep a record.
- Quiz/Test/Exam being caught for plagiarism:
  - Fail directly and send to the department to keep a record.
- Will allow you to defense if you are being accused for plagiarism.

On Generative AI

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- Sorry, we don't support the idea, yet.
- OOP is an essential course to develop the fundemantals.
- The use ChatGPT/co-pilot are not allowed in this course.

Anti-plagiarism

Software to check plagiarism

- Code plagiarism is much easier to catch.
- Specific software is used.
- Please do not challenge us.

Code inspection

- Students may be sampled to demo/explain their code.

Tentative Schedule

Week	Activities	Remarks
3	MC Quiz	**20/9/2023 evening** (Thur: $\frac{1}{2}$ hr)
7	Assignment 1	Thursday
7	Practical Test 1	**21/10/2023 afternoon** (Sat 2 hr)
10	Assignment 2	Saturday
11	Practical Test 2	**18/11/2023 afternoon** (Sat 2 hr)
13	Assignment 3	Saturday
1-13	Lab	

Late Penalty Rule

Applies to all your submitted work, including assignments and lab reports

Late	Penalty
24hrs	`mark = (int)(mark * 0.8);`
48hrs	`mark = mark >> 1;`
72hrs	`mark = mark >> 2;`
>72hrs	`mark &= 0;`

Whenever you see the icon  you can click onto it and try the code online.

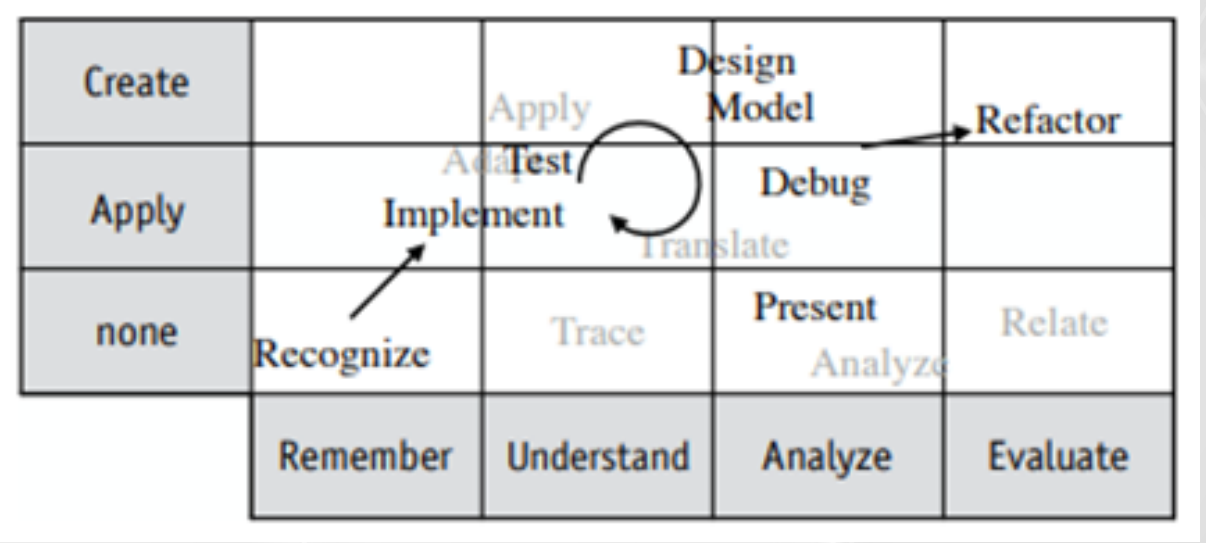
Our Expectation on you

- Got a computer at home with IntelliJ and JDK (not JRE!) installed.
- Attend all lectures and labs - 6 hours/week.
- Watch assigned videos - < 1 hour/week.
- Do assignments on your own, on time - 8 hours/assignment.
- Do the lab exercise - 0.5-3 hour/week
- Be an active learner.
  - Actively participate on Discord - 1 hour/week.
  - Do revision - 1 hour/week.

Our Expectation on you

You can progressively improve from:

- Recognize: Able to read lecture material
- Implement: Translates the completed design to code
- Test & Debug: Detect and correct flaws
- Design & Model: Understand and design a new solution structure
- *Refactor*: Optimize a given design according to OO principles



Credits

Part of the notes developed by Dr. Joe Yau are used in this course.