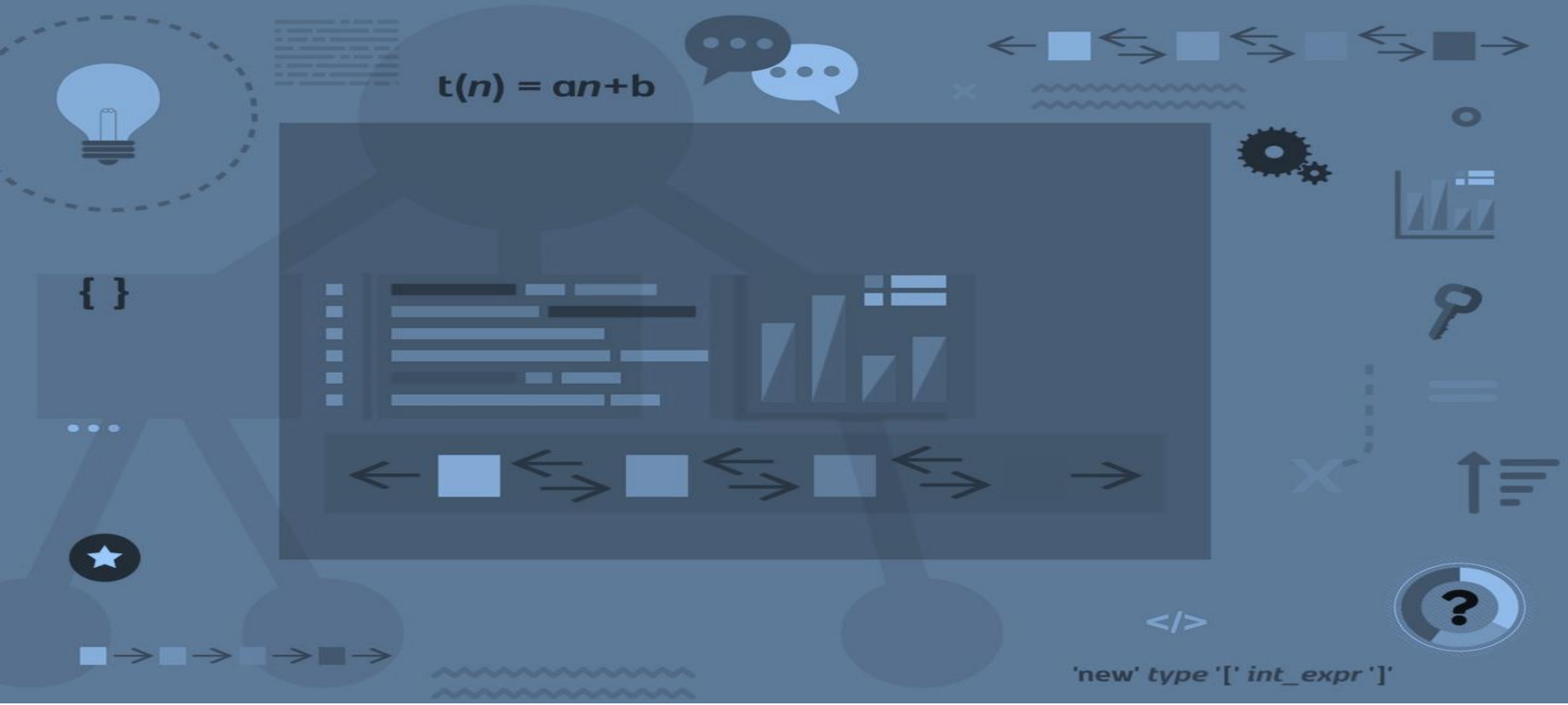


Advanced Object-Oriented Programming

CPT204 – Lecture 0

Erick Purwanto

Xi'an Jiaotong-Liverpool University

西交利物浦大学

CPT204 Advanced Object-Oriented Programming

Lecture 0

Introduction & Course Logistics

Hi all !

- Welcome to CPT204 Hyflex Edition!
- I am Erick, your instructor
- I hope you all are safe and healthy !

- As you know, the campus is closed for 1 week for pandemic mitigation
  - so we will have to do online lecture and online labs
- In week 2, we have on-site lecture but *online-only labs*
- Starting from week 3, we plan to have *both* on-site and online lectures and labs
  - you may choose to attend on-site or online with Zhumu
  - in addition, recordings will be made available
- Please continue to read this guide ...

Course Goals and Prerequisites

- We're going to learn how to:
  - Write code efficiently
    - Design, build, test, and debug large programs
    - Use programming tools e.g. IntelliJ, JUnit
  - Write good code
    - Correct
    - Easy to understand for other programmers
    - Ready to be changed in the future
  - Write efficient code
    - Good algorithms
    - Good data structure
- Assume solid foundation in programming fundamentals (CPT104, CPT105)
  - Basic OOP, recursion, big O notation, stacks, queues, lists, trees, …

Where to Get Information ?

- Learning Mall
  - Announcement, Lecture and Lab materials
  - Discussion Forum
  - In-class Quizzes
  - Lab Exercises
  - Theory Quizzes
  - Programming Exercises
- Office Hour and Email
  - only for private matters
- Optional Textbooks
  - Object-Oriented Problem Solving Java by Ralph Morelli, Ralph Walde
  - Effective Java by Joshua Bloch

Teaching Team and Schedule

- Instructor : Erick Purwanto
  - erick.purwanto@xjtlu.edu.cn SD545 Thursday 14.00-16.00
- Teaching Assistants :
  - Kai, Ruben, Xue, Yuanying, Yue, Yida
- Online Weeks
  - Online Lectures: Tuesday 13-15/16-18
  - Online Labs: materials in Learning Mall, released Thursday/Friday
- Hyflex Weeks
  - Lectures: Tuesday 13-15/16-18, SC169
  - Labs: Friday 15-16/16-17/17-18, SD554/SD546

Teaching Assistant

- Kai Yao
  - His research interest is Deep Learning based Computer Vision
  - His current work is Dense Instance Segmentation and Classification

- Ruben Ng
  - His research interest is Information Visualisation and Explainable AI
  - His recent work is Visual Explainable AI for Biochip Classification Interfaces

Teaching Assistant

- Xue Wang
  - Her research interests are about Electrical and Electronics
  - She is currently working on Differential Power Processing Converter in PV and Solid-state Circuit Breaker

- Yuanying Qu
  - Her research interest is on Integrated Detection System of Acoustic Wave
  - Her recent work is Indoor Human-centered Acoustic Recognition and Detection

Teaching Assistant

- Yue Hu
  - His research interest is Computer Vision, Object Recognition, Data Science, and Financial Computing
  - He is currently working on Multimodal feature fusion, Object recognition based on Radar and LiDAR Sensor

- Yida Yin
  - His research interest is Machine Learning and Data Science
  - His current work is the application of Neural Network in Finance Analysis

Assessment

1. Coursework : 50%
   - Coding Exam
   - in last Lab session, details TBA
   - Related to weekly Lab Exercise and Programming Exercise

2. Final Exam : 50%
   - Theory and Programming
   - in Exam Hall/Lab, details TBA

How do you learn?

- Learn **some** from
  - Listening to lectures
  - Reading the materials
- Learn **more** from
  - Trying out the codes from lectures and readings yourself
    - Discussing them with your friends / in forum
  - Doing the lecture and lab exercises
  - Doing the theory quiz + programming exercises
  - Experiment on your own
- You are encouraged to discuss the exercises with your study group
  - But write the code *yourself* !

Lab Exercises

- Not graded, but will be related to Coding Exam
- Closed in 1 week
- Weekly lab exercise:
  - Attempts allowed: 1
  - Must pass **all** test cases
  - No penalty
    - Unlimited Checks
- Solution is available after closing
- Will be discussed in the slides (online) / by TAs (hyflex in labs)
  - but you should first try to solve it on your own!
- Can be discussed in Discussion Forum

Programming Exercise and Theory Quiz

- Not graded, but will be related to Coding Exam
- Closed in 1 week
- Weekly programming exercise:
  - Attempts allowed: 1
  - Must pass **all** test cases
  - First check: no penalty
  - Second check and so on: cumulative 15% penalty
- Theory quizzes:
  - Attempts allowed: 1
- Solution is available after the closing
- Ask about the question if it is not clear in forum
  - but **do not post** the solution code

Attending Lectures and Labs

- You will see explanation and sample codes in the slides
  - Various tools in Learning Mall
    - LMO In-class Quiz
    - LMO Autograded Quiz for Exercises (see Lab 1)
  - Copy paste the sample codes into IntelliJ IDE in your computer
    - Modify and run it, play with it yourself !

- Complete the slides
  - Print and scribble, or use a pdf annotation program
  - Recordings provided

- If you have further questions, post your questions in the LMO Forum

Challenges and Forum

- Challenges :
  - It's a challenging course with ambitious learning goals
  - We have a large cohort of $\sim$400 students
  - We are *still* in the middle of a once-in-a-century pandemic

- Don't email, post your questions in the Discussion Forum

- You are also **encouraged** to **answer** your friends' questions
  - let us use forum to effectively answer your questions!

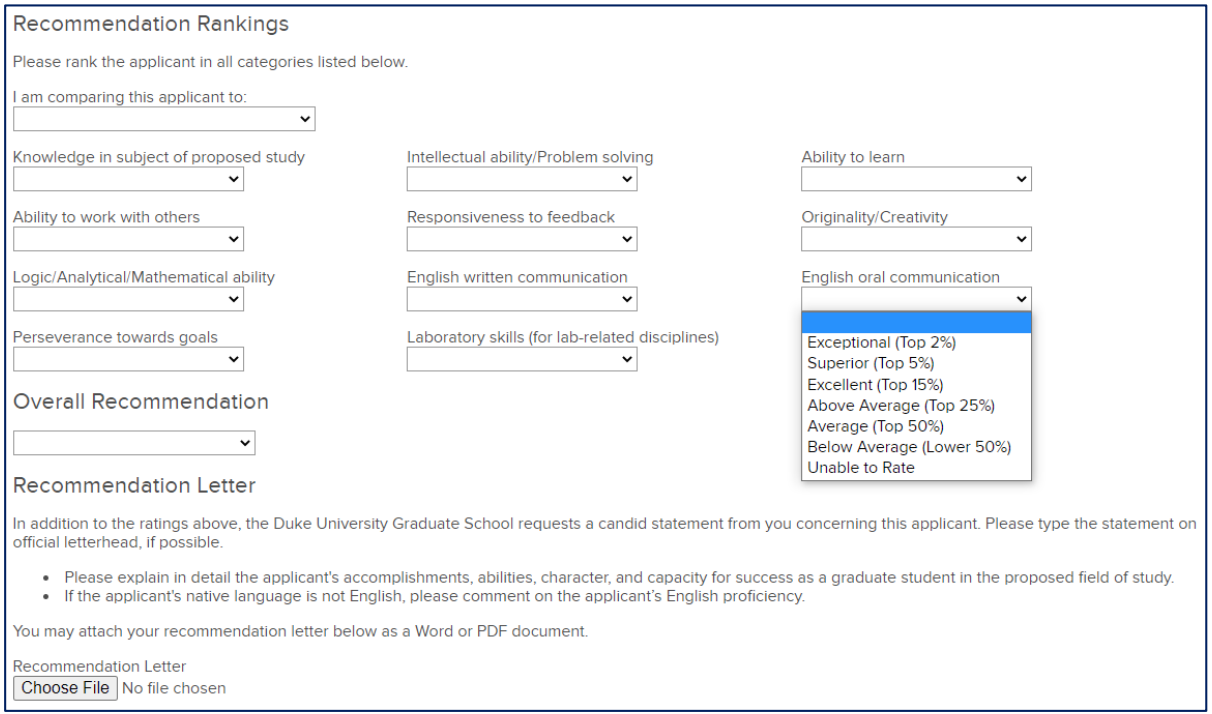
- Remember, **do not** post code or solution
  - it will ruin other students learning development

Discussion Forum and General Attitude

- We are all in this unpredicted and quite difficult situation now
- Please in posting in the forum or email, always remember to:
  - Be kind
  - Be patient
  - Be helpful
- In addition:
  - Search first, maybe your friend has asked the same thing before
  - Post in English, be specific, provide enough information
    - For example, don't just write that some error happens, but explain what did you do that might cause it, write the error message, OS/browser you use
    - Provide screenshot if necessary, but make sure it does not contain your code

Your Long-term Goals

- Not just good grade
- Job interview, graduate study, recommendation letter



Recommendation Rankings

Please rank the applicant in all categories listed below.

I am comparing this applicant to:

Knowledge in subject of proposed study

Intellectual ability/Problem solving

Ability to learn

Ability to work with others

Responsiveness to feedback

Originality/Creativity

Logic/Analytical/Mathematical ability

English written communication

English oral communication

Perseverance towards goals

Laboratory skills (for lab-related disciplines)

Exceptional (Top 2%)
Superior (Top 5%)
Excellent (Top 15%)
Above Average (Top 25%)
Average (Top 50%)
Below Average (Lower 50%)
Unable to Rate

Overall Recommendation

Recommendation Letter

In addition to the ratings above, the Duke University Graduate School requests a candid statement from you concerning this applicant. Please type the statement on official letterhead, if possible.

- Please explain in detail the applicant's accomplishments, abilities, character, and capacity for success as a graduate student in the proposed field of study.
- If the applicant's native language is not English, please comment on the applicant's English proficiency.

You may attach your recommendation letter below as a Word or PDF document.

Recommendation Letter

Choose File No file chosen

Thank you for your attention !

- Next, please go to Lab 0 to install Java, IntelliJ, its plugin and libraries
- And then, go to Lecture 1 and start reading this week's material
- Finally, go to Lab 1 to start exploring our tools and do this week's programming exercises...

Acknowledgement

- Some of the materials are taken from courses by
  - Dr Grant Malcolm, University of Liverpool
  - Dr Josh Hug, UC Berkeley
  - Prof Max Goldman, Prof Rob Miller, MIT