- <a href="https://wiki.nus.edu.sg/display/cit/Poll+Everywhere">https://wiki.nus.edu.sg/display/cit/Poll+Everywhere</a>
- Bicycle ride
- https://www.youtube.com/watch?v=RgVUhJwGImQ

# IT5001 SOFTWARE DEV. FUNDAMENTALS



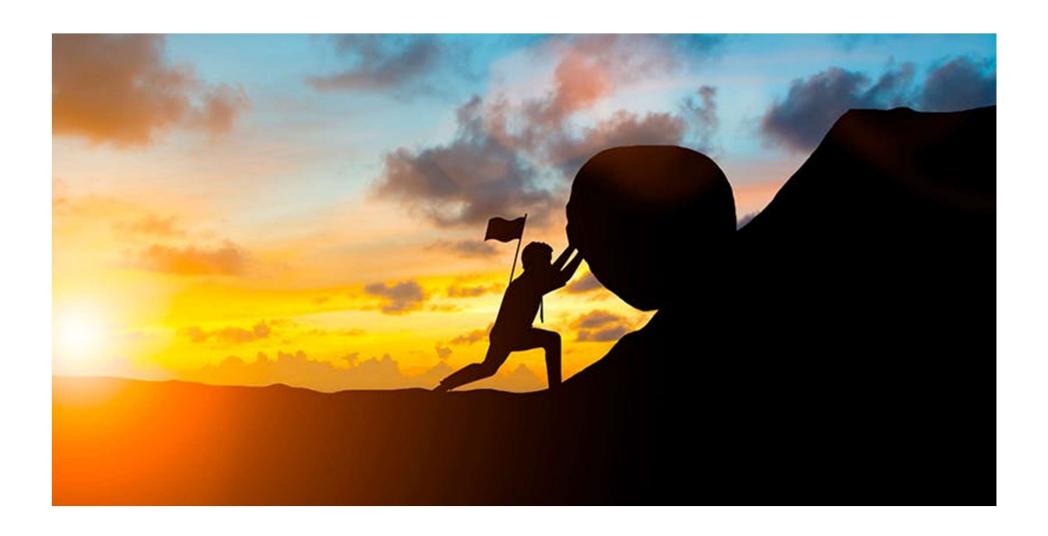
## INFORMATION ABOUT THIS COURSE

## Teaching Staff (L2)

- Lecturer (Python):
  - Name: Sirigina Rajendra Prasad
  - Email: srprasad@comp.nus.edu.sg
- Lecturer (Java):
  - Name: Foo Yong Qi
  - Email: yongqi@nus.edu.sg
- TA:
  - Foo Yong Qi
  - Varun Venkatesh Narayan
  - Nikolas Mak Hoi Hean
- Groups L1 and L3: Prof. Alan

## ABOUT THIS COURSE

## Hardwork



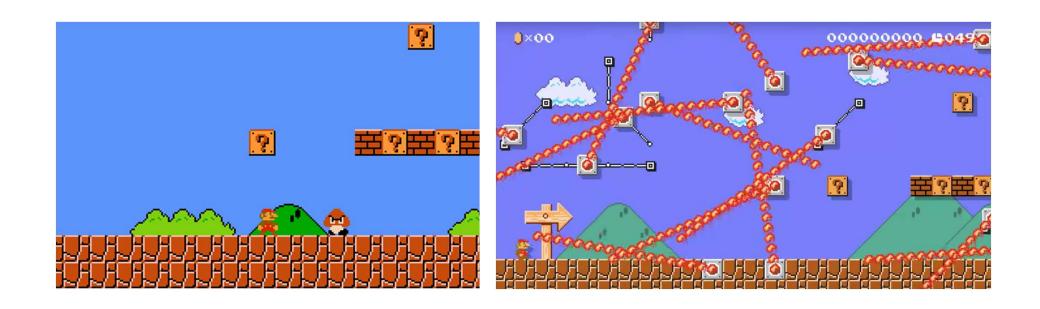
### This Course vs COS2000





Culinary Degree vs Cooking Class

## This Course vs COS2000



https://youtu.be/9GP8yg-x1Kw?t=954



## Life and Learning

- "Nothing in the world is worth having or worth doing unless it means effort, pain, difficulty... I have never in my life envied a human being who led an easy life. I have envied a great many people who led difficult lives and led them well." — Theodore Roosevelt
- "Fun, achievements and sense of success ONLY come with the payments of falls, pain and mistakes you made." Me

#### Assessments

- It's normal NOT to have full marks
- It is not high school, or JC, or secondary school
  - Teacher told you what to and you finished them, you got full mark
- University emphasis on generating knowledge
  - BY STUDENTS THEMSELVES
  - It is not copy-and-paste



#### **NUSWhispers**

August 28 at 10:28 AM · (a)

it kinda pisses me off that the computing lecturer assumes that we know alot of the things and is more concerned in finishing the lesson plan within that hour than whether the students understand what he is saying

#51782: https://www.nuswhispers.com/confession/51782



#### Most Relevant ▼



Write a comment...





Ben Leong Which lecturer? If you don't understand, just put up your hand and ASK lah.

Like · Reply · 7h



Ng Xin Zhao If you don't know then raise hand, ask questions. Do read up what you can before hand, and follow the instructions, does the lecturer expects you to read up before class? Or had he assumed everyone is at his pace since no one asked him to slow down or ask questions. But don't expect spoon feeding.

Like · Reply · 2d



Ivan Chew u are supposed to read up (think, try out) beforehand and patch ur knowledge in lecture not go into lecture expecting to be taught as in primary/sec school

also, without practice, you can't really learn stuff in computing (aside from the theoretical / definitions part)

Like · Reply · 2d · Edited



Daniel Kwang It's only week 3 and you're complaining? You have yet to see what the whole module have prepared for you. However, it's still not too late for you to catch up.

Like · Reply · 2d

## Grades (In general)

above

•	F or D			
	•	You didn't do anything		
	•	You barely did something	16.7%	
•	C			
	•	Somehow you know how to code	40.00/	
•	В		13.6%	
	•	You understand and know how to solve		
		problem with coding	34.8%	
	•	You can solve Kattis problems of 2.0+ and above		
•	Α			
	•	You did more than what is taught		
	•	You can solve Kattis problems of 3.0+ and		
	_	above	34.9%	
•	<b>A</b> +			
	•	You can solve Kattis problems of 4.0+ and		

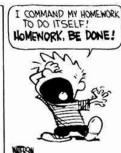
## Course Structure

- Lecture
  - Wed, Fri
  - Focus: Teaching, overview
- Tutorial Sessions
  - Monday
  - Focus: Practice, details
- Grouping
  - L1 and L3 > Alan
  - L2 > Dr Rajendra

#### CA

- Assignment 20%
- Trainings 0%
  - Cousremology + Kattis
- PEs
  - PE 20%
- One Mock Quiz 0%
- Midterm 20%
- Final Assessment 40%















- Subject to 5% adjustment
- All Assessments are "grade-based"
- All Assessments are F2F

#### Assessments

- Only one physical cheat sheet on the table
- You cannot access any other materials, including those stored in your computer.
- PE:
  - Only IDLE

## Details: Assignment

- Homework are all distributed, submitted, graded on
  - Coursemology (Only one chance to un-submit in one semester)
- Total Seven of them
  - HW 1-7 for Groups L1 and L3
  - HW 3-7 + 2 HW in Java for L2
    - HW 1-2 are not graded
- Late policy:
  - One day late 33% discount
  - Two days late 66% discount
  - Three or more days late, zero
- No excuses for assignments except long term hospitalization



## Plagiarism

The act of presenting another's work or idea that as your own.

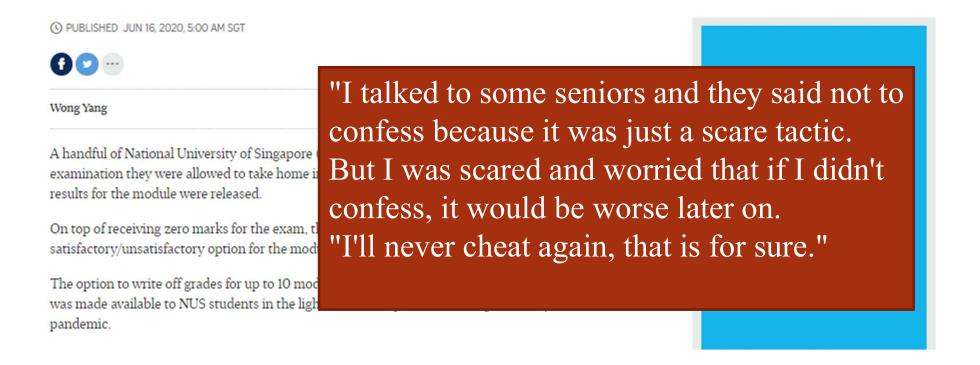


#### THE STRAITS TIMES

## SINGAPORE

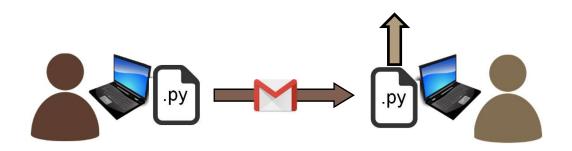


#### NUS students punished for cheating on take-home exam



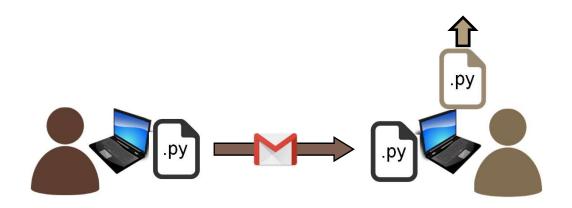
## Plagiarism #1

#### Direct copying



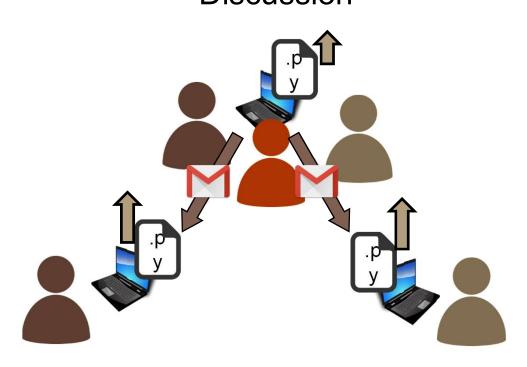
## Plagiarism #2

#### "Referencing"



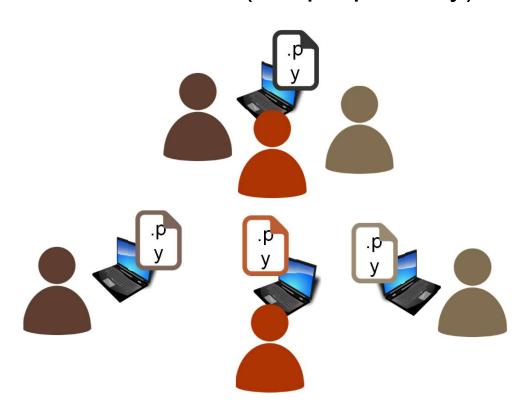
## Plagiarism #3

#### "Discussion"



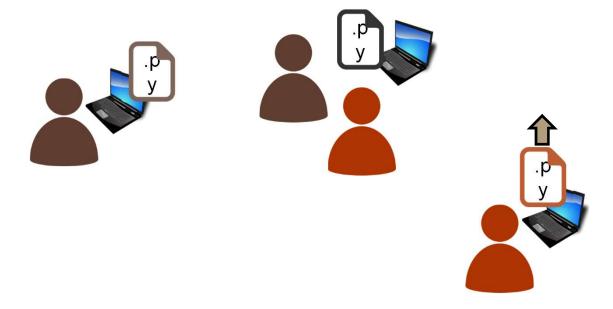
## Not Plagiarism

Discussion (the proper way)



## Not Plagiarism

#### Assistance



## Some Plagiarism Techniques (PE)

- Level 0
  - Just copy
- Level 1
  - Add comments
  - Rename variables
  - Add useless lines/statements
  - Shuffle the orders of statements/functions
- Level 2
  - Copy/extract some part of the function to make another function
  - etc.
- Level 3
  - Etc.., etc.









2001 Old Master Q Comic

#### Conclusion

The knowledge you need to know how to cheat and escape from the plagiarism checker

IT5001 Course materials



Both <u>copying</u> and <u>being copied</u> will be punished in the same way

## **Details: PEs**

- Practical exams are programming tests
- PE at 1st Oct 4-7pm (actual duration is two hours)
- You need to use the lab machines
  - Meaning only using IDLE

## Make-up PEs, Midterm

- You are qualified for make-ups if
  - Hospitalization or serious illness with MC by a doctor
  - NS (for guys)
  - You have informed us at least a week before the assessment
- Any thing other than the above are not qualified, some unqualified examples:
  - Oversea Travel, both <u>business</u> and personal (except the above)
  - Working or personal commitments
  - Other courses
  - Representing halls or clubs, including with letters from hall officials
- There will be no more make-up for make-ups.
- By NUS rule, once you started an assessment of any kind, you cannot do any make-ups.

#### Software Tools in This Course

- IDLE (app)
  - To code and run Python
- Coursemology (website)
  - All lecture/tutorial materials, including webcasts
  - Receiving, testing and submission of your assignments
- Archipelago or Polleverywhere (website)
  - For real time interaction in lectures
- Kattis
  - For extra trainings
- You will receive emails invitations for the two websites

#### Feedback

#### Dear Prof Alan,

... as a student without much background in computing, but a strong desire to learn more. I found this module to be very useful as it consolidated key computing topics and concepts. I looked forward to studying the topics in depth, and I am glad we covered object-oriented programming.

The <u>weekly assignments I felt played an important role in my learning</u>. The assignments themselves were very interesting and enriching, especially the last one on OOP where we got to work with and experience larger scale programs.

After this course, I attended a Machine Learning Workshop and I can fully understand all the ML contents!

## Important Dates

Week	Dates	Events
1		
2	ОТОТ	Quiz 0
7	24th Sept 1-2pm*	Midterm
8	1st Oct 4-7pm*	PE (20%)
10	15 <sup>th</sup> Oct Afternoon (TBD)	Final

# MARK YOUR CALENDAR

\*We reserve the right to adjust the date and timing

## Credit

- Slides are adopted from Prof. Alan's lecture materials
  - IT5001 L1 (2021/22 Semester 2)

- Also from Foo Yong Qi
  - IT5001 L2M (2021/22 Semester 2)

## References

- Python Documents
  - https://docs.python.org/3/index.html
  - https://docs.python.org/3/tutorial/index.html
  - https://docs.python.org/3/library/index.html
  - https://docs.python.org/3/reference/

## Course Outline (tentative)

- Week 1
  - Introduction + Functions
- Week 2
  - Selection and Loops + Functions (Scope + Recursion)
- Week 3
  - Functions (Recursion Vs Iteration) + Debugging
- Week 4
  - Sequences (Lists, Tuples, Dictionaries, Sets)
- Week 5
  - Higher Order Functions + File IO
- Week 6
  - MD Array + OOP
- Week 7
  - Complexity (Search, Sort, etc.)
- Week 8
  - Miscellaneous