

ORIENTATION

</> <https://github.com/psse-cpu/se-1223-orientation-slides>

SE 1223 Software Development II

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WELCOME TO SE-1223

SOFTWARE DEVELOPMENT II

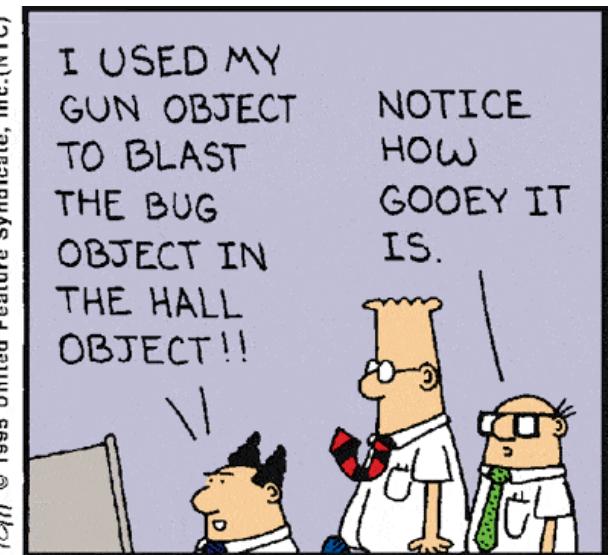
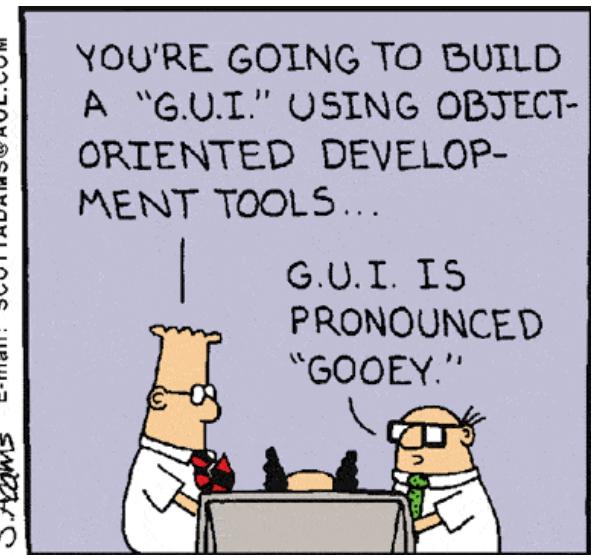
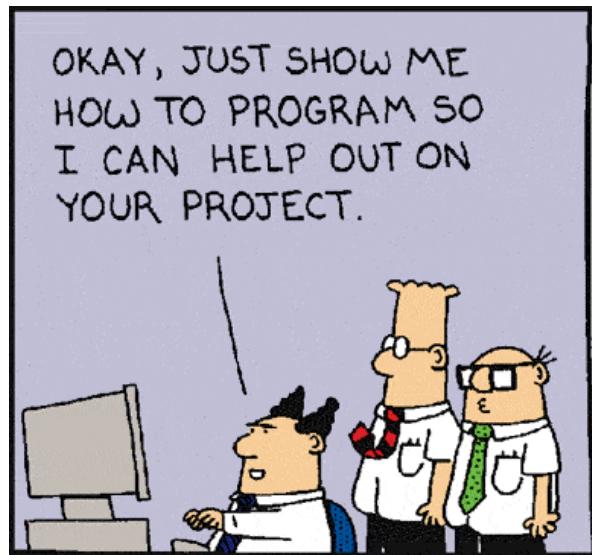


OUTLINE

- course description
- course outline
- pre-requisites
 - courses
 - knowledge
- which courses need SE 1223?
- summer vs semester pace
- academic integrity

WHAT IS IT?

- This course focuses on object-oriented programming (OOP).



WHAT IS IT?

- Solve a problem by modelling real-world objects in your code.
- Mainstream programming style (formally called a paradigm)
- 8 of the 10 programming languages in the TIOBE Index Top 10 are primarily OOP
 - as of July 2020
 - TIOBE rankings change from time to time

WHAT LANGUAGE?

- Java is used in most traditional OOP courses
- CPU SE is **not** traditional, so let's use a hipster language from Google



Dart

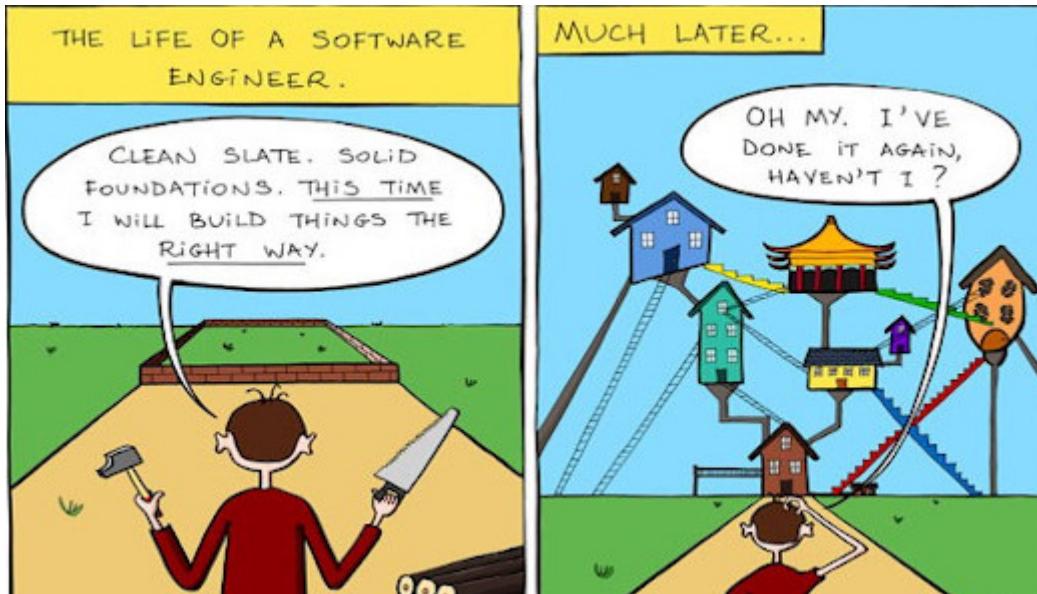
WHAT WE'LL LEARN? (1/7)

```
class Dog {  
    String name;  
    String breed;  
    int weight;  
    String dominantColor;  
  
    bark() {  
        print(weight > 50 ? 'Woof' : 'Arf');  
    }  
}
```



Represent/mimic/model a single, real-world object
inside our code.

WHAT YOU'LL LEARN? (2/7)



OOP is easy-to-learn, but difficult-to-master. It's easy to go astray. We'll learn *principles* and *best practices* along the way

WHAT YOU'LL LEARN? (3/7)



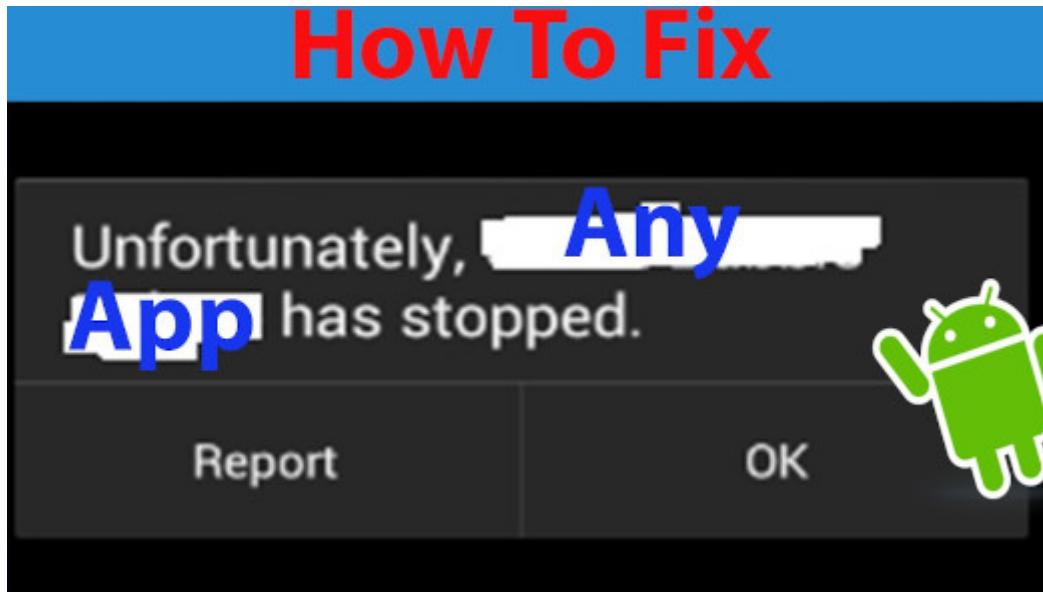
Some of these objects are similar (all these animals breathe), but they do have slight differences. We can model them in our OOP code too.

WHAT YOU'LL LEARN? (4/7)



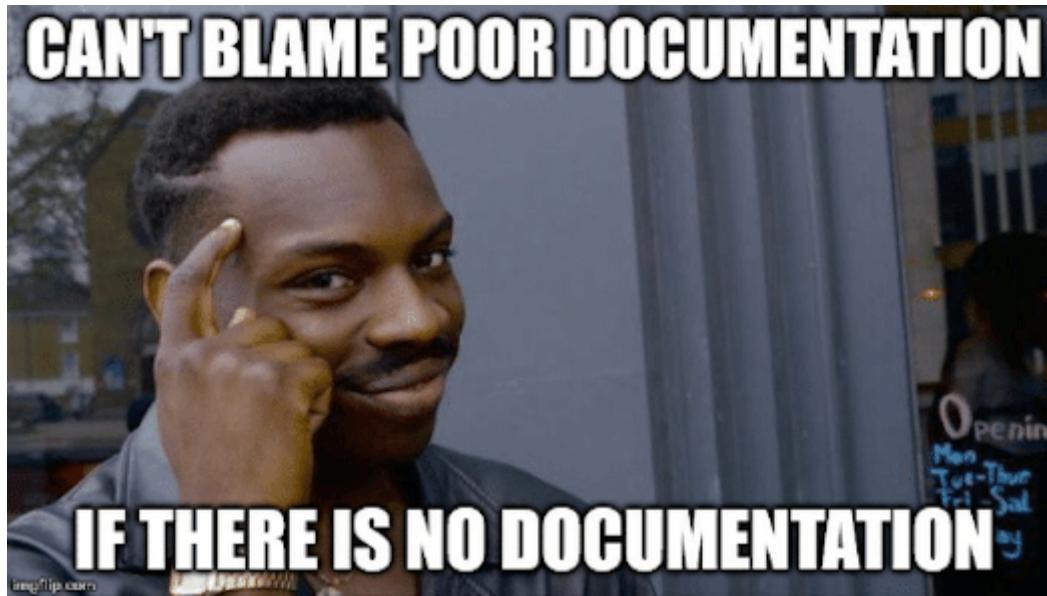
Build big objects that are **composed** of smaller objects. A petshop is made up of pets, the veterinarian, shelves, customers, pet food, etc.

WHAT YOU'LL LEARN? (5/7)



Things that can go wrong in our apps are also objects 😬, they're heavy, they get thrown around, and will crash our apps if we don't catch 'em.

WHAT YOU'LL LEARN? (6/7)



When our app has now 1337 different kinds of objects, our brains will melt. We'll learn some notations to give us bird's eye views of how these objects interact.

WHAT YOU'LL LEARN? (7/7)



CLI apps get boring after a while, but your next Uber for Sardines startup idea needs a GUI right? You'll build a mobile app or game for your final project.

PRE-REQUISITES

- SE 1121 - Software Development I
- Pre-requisite knowledge:
 - variables
 - conditionals
 - loops
 - ~~arrays / lists~~ (not covered last sem)
 - ~~functions~~ (not covered last sem)

WHICH COURSES NEED SE 1223 AS A PREREQ?

- SE 1222 - Data Structures (co-requisite)
- passers of this course can take SE 2224 (Software Engineering Tools and Practices)
- other sophomore courses require SE 1222 (Data Structures) as well

SE-1223 IS A FULL-TERM COURSE (1/2)

Hi sir. Maask ko help sir.
Nastuck nanaman ako sa
probset2b 😭. As in pila ko na ni
nga adlaw napalibugan sir. Mag

- We learned during the first semester that subterms are not SE-friendly.
 - 3 days is equivalent to 2-weeks on a regular semester
 - Since classes are compressed from 18 weeks to 5+ weeks
 - 2-hour classes per day means 6-hours in just 3 days
 - 6-hours is 2 weeks worth of lecture in a regular sem

REGULAR PACE

2020 JULY

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2	3	4
5	6	7	8	9	10	11
3 hours lecture, 3 hours lab for 1 week						
12	13	14	15	16	17	18
6 hours lecture, 6 hours lab after 2 weeks						
19	20	21	22	23	24	25
26	27	28	29	30	31	

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3-SUBTERM / SUMMER PACE

- "summer" classes have the same pace as the 3-subterm style last sem
 - in "quotes" since COVID-19 forced a calendar shift

2020 JULY						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2	3	4
5	6 2 hours lec 2 hours lab	7 +2 +2	8 +2 +2	9	10	11
12	13	14	15	16	17	18
6 hours lecture, 6 hours lab only after 3 days!!! 1 week of summer == 1 month of regular sem!						
19	20	21	22	23	24	25
26	27	28	29	30	31	

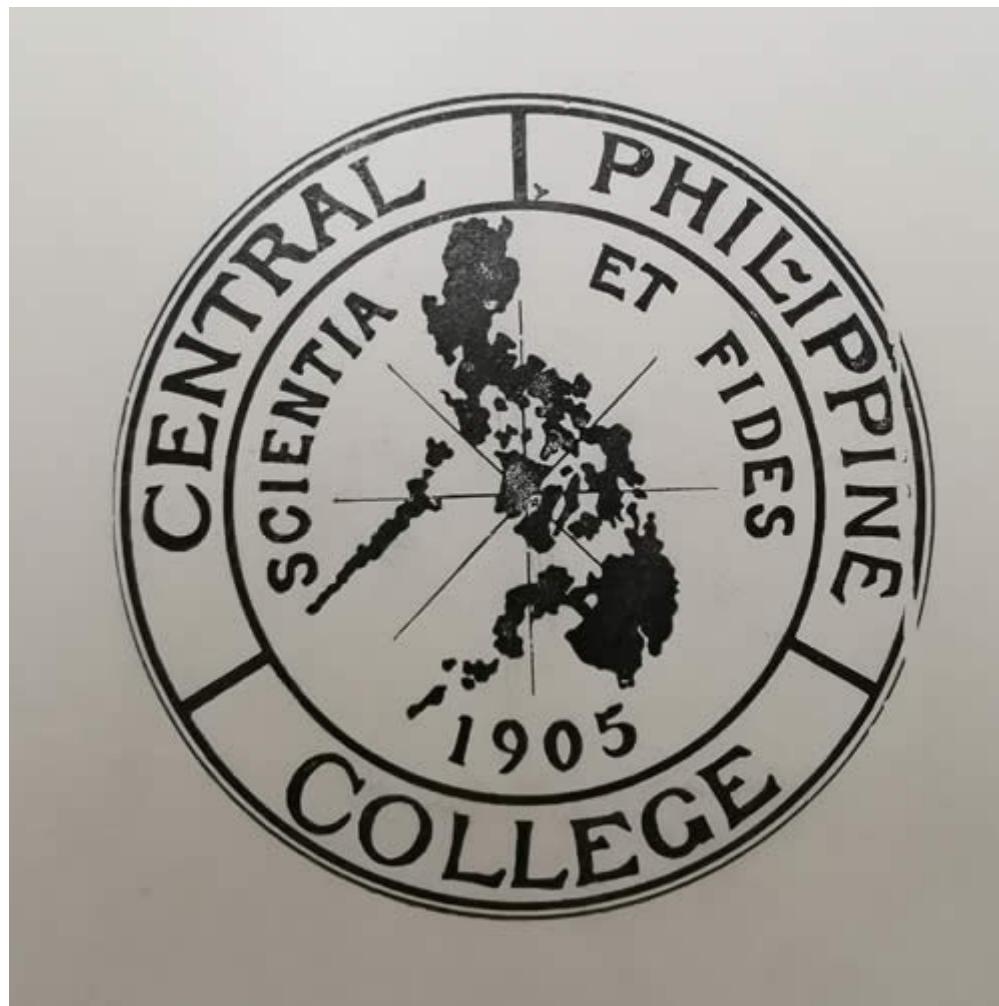
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SE-1223 IS A FULL-TERM COURSE (2/2)

- No distinction between lecture and lab
- Short lecture, few examples, and then problem set
 - it serves as your lab component along with final project
- In a normal semester, SE-1223 is 3-hours lecture and 3-hours lab per week
 - For this semester, SE-1223 is:
 - 6-hours "*lecture*" for the first subterm (7:00-8:30 AM MTThF)
 - 6-hours "*lab*" for the second subterm (4:00-5:30 PM MTThF)
- BUT AGAIN, no distinction between lecture and lab
 - loopholey and ninja-ish, but it's for your own good 😅

HOUSE RULES

PRAYER



LET'S START OUR LIVE CLASSES WITH A PRAYER

"You, Lead the prayer."



Okay, let's pray

Bakit ako?

I WON'T PINPOINT A STUDENT TO LEAD THE PRAYER

- Student don't refuse, but may not have the ❤️
- When I enter the live class session, if the Holy Spirit moves you to pray, go ahead

As she kept on praying to the Lord, Eli observed her mouth. Hannah was praying in her heart, and her lips were moving but her voice was not heard.

-1 Samuel 1:12-13

PRAY FROM THE HEART, DOESN'T HAVE TO BE ENGLISH

7 When you pray, don't babble on and on as the Gentiles do. They think their prayers are answered merely by repeating their words again and again.

9 Pray like this:

Our Father in heaven....

-Matthew 6:7,9

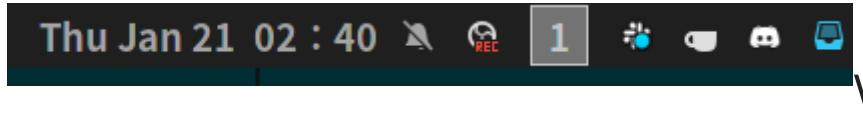
LIVE CLASS HOUSE RULES (1/2)

-  Mute your mic when not speaking



LIVE CLASS HOUSE RULES (2/2)

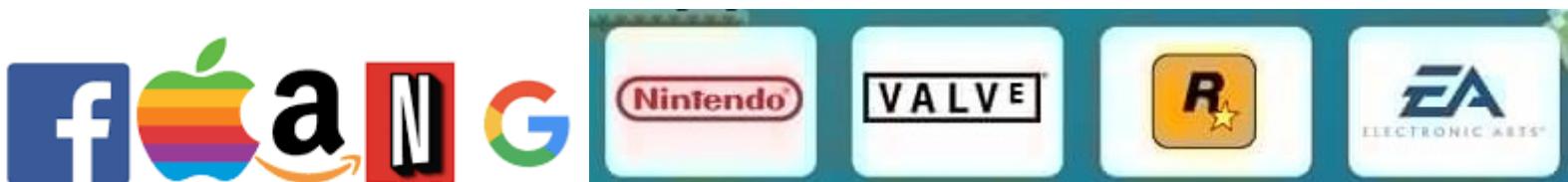
- call my attention if lecture is not recorded
 - recording



- not recording



- English is the medium of instruction
 - **PRACTICE:** most software companies are multi-national



LEARN THE HARD WAY



Sarah Drasner @sarah_edo · Jun 15, 2018

...

Many many years after reading "Learn Python the Hard Way" the *most* valuable part of the whole book for me was in the introduction. It has informed so much of how I've taught myself over the years.

Do Not Copy-Paste

You must *type* each of these exercises in, manually. If you copy and paste, you might as well not even do them. The point of these exercises is to train your hands, your brain, and your mind in how to read, write, and see code. If you copy-paste, you are cheating yourself out of the effectiveness of the lessons.

- try not to open past exercises when practicing
 - or if you need to, just don't copy and paste lazily

PRACTICE, PRACTICE, PRACTICE

CodeKata

(9 Comments)

How do you get to be a great musician? It helps to know the theory, and to understand the mechanics of your instrument. It helps to have talent. But ultimately, greatness comes from practicing; applying the theory over and over again, using feedback to get better every time.

How do you get to be an All-Star sports person? Obviously fitness and talent help. But the great athletes spend hours and hours every day, practicing.



- Do the problem sets
- Even if they are a LOT
- This sem we'll try
 - 50% basics - solve these for a 3.0 equivalent
 - 25% average - solve  and these for a 2.0 equivalent
 - 25% difficult - solve  and these for a 1.0 equivalent

GO THE EXTRA MILE

- fast learners will have lots of extra time
 - don't be idle and waste time
 - learn beyond what's required
 - make sure you **100%** understand what you learn in advance



JESUS TAUGHT US TO GO THE EXTRA MILE



**IF ANYONE FORCES YOU TO GO ONE MILE,
GO WITH HIM TWO MILES.**

MATTHEW 5:41

ASK QUESTIONS



- There are no stupid questions, don't be shy.
 - FUN FACT: Students that ask lots of questions have an 80% chance to get 1.0.

ACADEMIC INTEGRITY

Absolutely no to cheating in my classes

*Whoever can be trusted with very little
can also be trusted with much, and
whoever is dishonest with very little
will also be dishonest with much.*

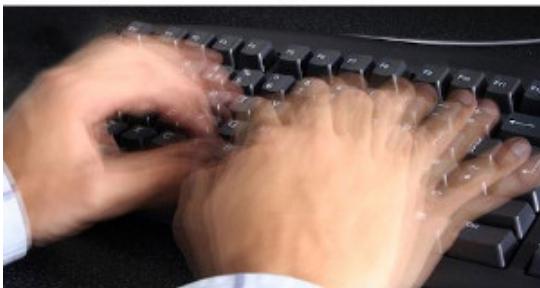
-Luke 16:10

*Whoever walks in integrity walks
securely, but whoever takes crooked
paths will be found out.*

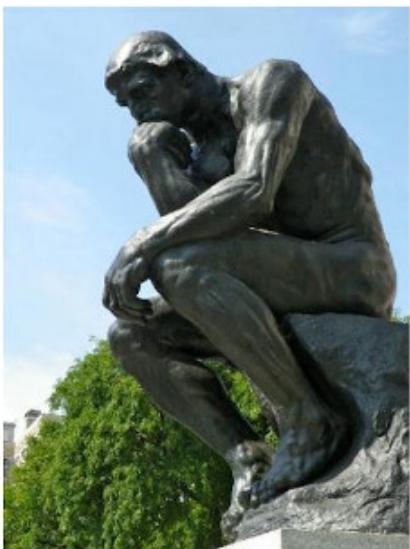
-Proverbs 10:9

CODING IS THINKING, NOT COPYING

**How people think
programming looks like**



How it actually looks like

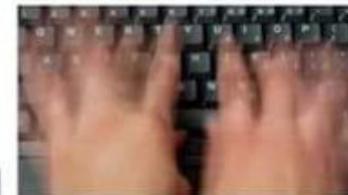


Saba Gamgebeli

Admin • Feb 23 at 01:22 • ②

...

What people think programming is like



What programming is actually like



100 Akaki Benidze and 40 others 2 Comments • 6 Shares

Like

Comment

Share

IF YOU DON'T GET CAUGHT

- it will still backfire, one day when working, you'll have no one to copy from
 - remember Prov 10:9, you **will** be found out
- only ~8% of PH grads can pass Stacktrek's exam for applicants
 - they graduated but can't pass a **basic** coding exam?
- but there's Google!
 - a bank in our country got hacked, for copying, **without understanding** -- StackOverflow code snippets that is neither meant to be complete nor secure, but just illustrates an idea

IF YOU'RE STUCK WITH A PROBLEM SET FOR MORE THAN 45 MINUTES



Dude buddy,
I'm stuck,
can **I** take a
look at **your**
code puhleez,
migohay! grupo!



Dude buddy,
I'm stuck, can
you take
a look at **my**
code puhleez,
and gimme some tips?

IF YOU'RE STUCK WITH A QUIZ OR EXAM FOR MORE THAN 45 MINUTES



Treat *new normal* quizzes and exams as proctored