

CS 1110

Introduction to Computing
Using Python

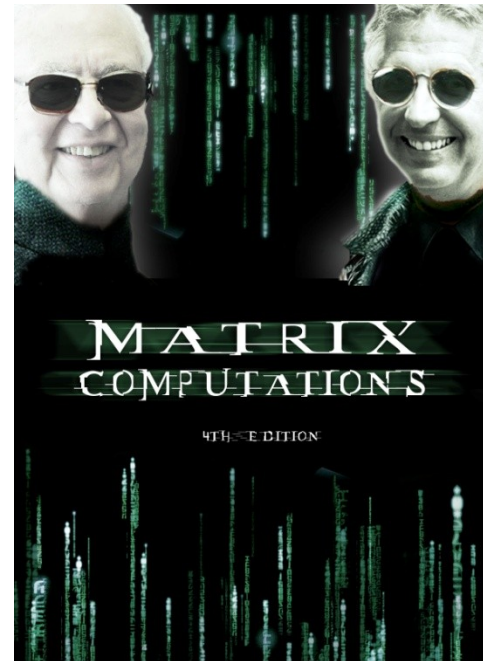
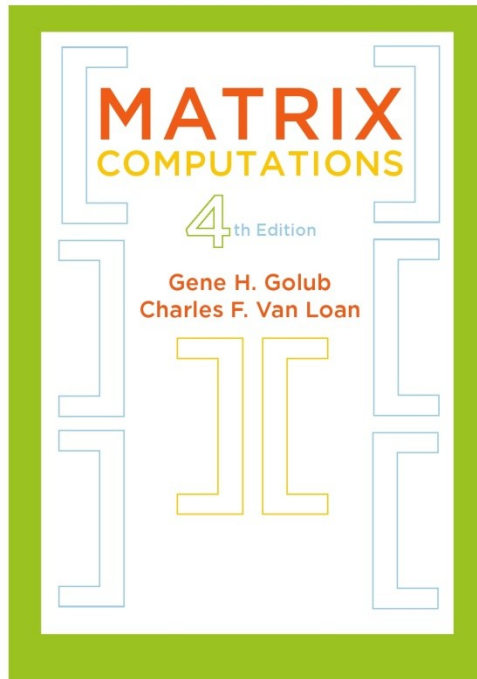
Instructors:

Professor Lillian Lee

Professor Charles Van Loan

Introducing Professor Van Loan...

- University of Michigan BA (1969), MA (1970), PhD (1973)
- In 2008, named a Fellow of the Society for Industrial and Applied Mathematics (SIAM))
- Author/Co-Author of Seven Books Including



Introducing Professor Lee...

- A.B. Cornell '93, Ph.D. Harvard '97
- In 2013, named a Fellow of the Association for the Advancement of Artificial Intelligence (AAAI)

- Can computers **learn how to paraphrase our writing?**

—*The New York Times* What kind of language

distinguishes **memorable movie quotes?**

—NPR's *All Things Considered*,
The Today Show



"FRANKLY, MY DEAR, I DON'T GIVE A DAMN" TOPS AFI'S LIST OF 100 GREATEST MOVIE QUOTES OF ALL TIME

OTHER WINNERS INCLUDE:

THE GODFATHER, **"I'M GOING TO MAKE HIM AN OFFER HE CAN'T REFUSE"**

THE WIZARD OF OZ, **"TOTO, I'VE GOT A FEELING WE'RE NOT IN KANSAS ANYMORE"**

AND CASABLANCA, **"HERE'S LOOKING AT YOU, KID"**

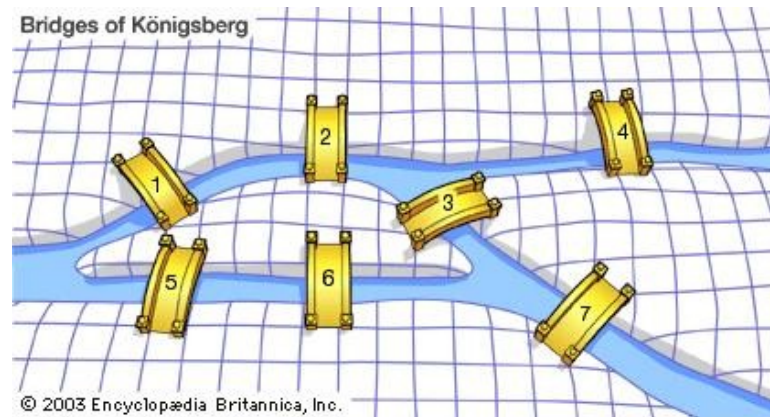
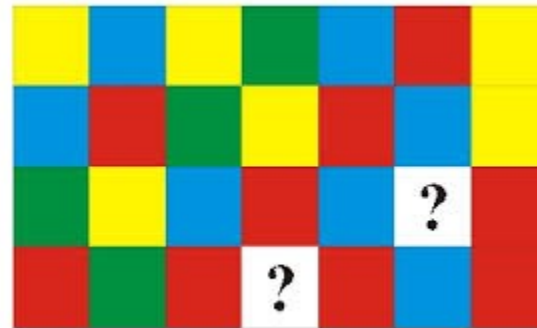
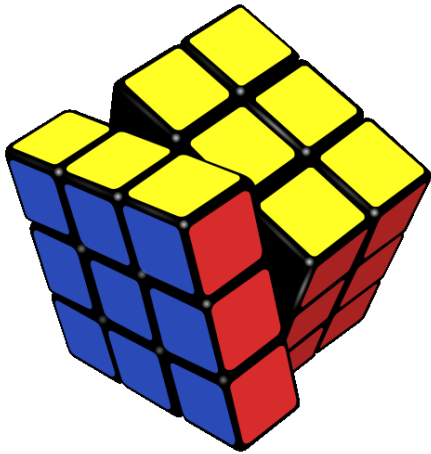


Are You Ready?

Actually, you are probably more than ready to take CS 1110.

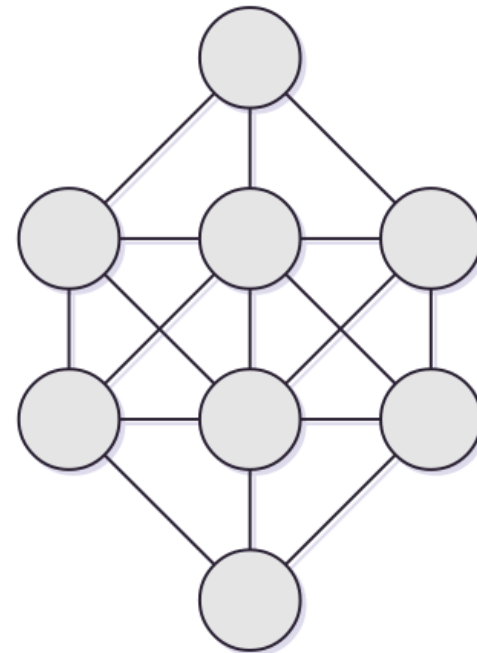
Here is why....

You Like Logic Puzzles



You Like Number Puzzles

8			4		6			7
						4		
	1					6	5	
5		9		3		7	8	
				7				
	4	8		2		1		3
	5	2					9	
		1						
3			9		2			5



You Like Word Puzzles

" K R K T U O B A I K G O J
 " N O T I O
 S K U U X Z O T X O E T B G
 N N O O T
 X K B X O E S E B A U X O
 T O T I N O
 I K U B L ? L O H K O U K A L
 N T S ? S O O N I S
 S K U U X O U B G K Q K N W
 N N O N T

Aligning

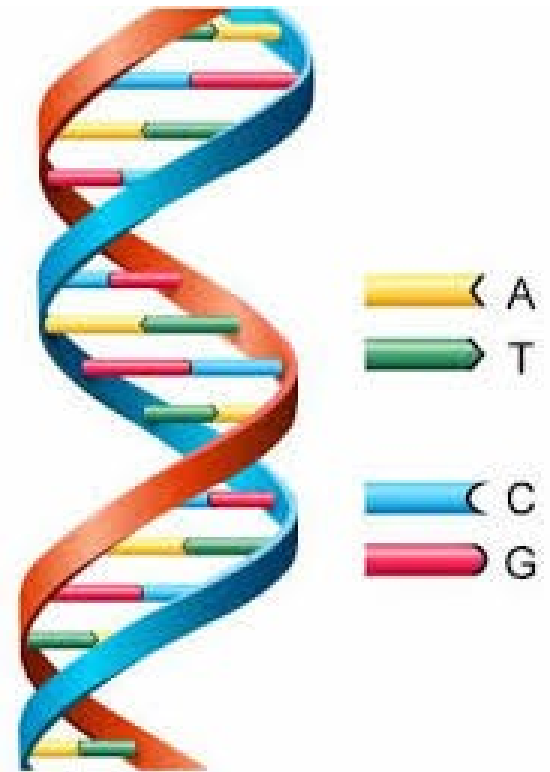
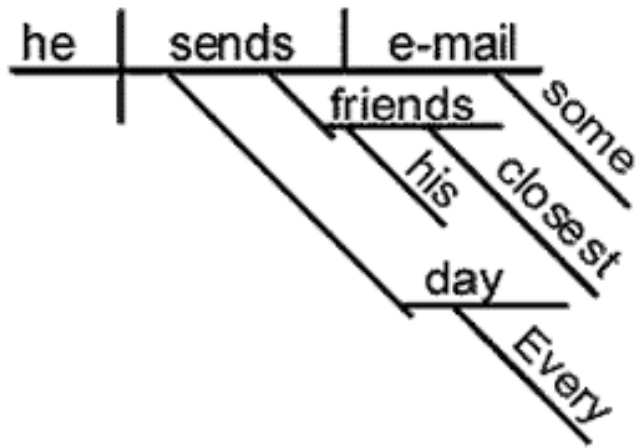
	260	*	260	*	300	*	320
species 1	TCAAAGATTAAGC-CATGCATGTC	AAAGT--ACAAGCCCATTA-AG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 2	TCAAAGATTAAGC-CATGCATGTC	TAAGT--ACAATCCTCTTGA-GG-	GAGA-AACT	GC	AAAGGGCTCAITAAA--TCA		
species 3	TCAAAGATTAAGC-CATGCATGTC	CAAGT--ACAAGCCTCACTA-AG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 4	TCAAAGATTAAGC-CATGCATGTC	TAAGT--ACAGNCC-ATCT-AAG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 5	TCAAAGATTAAGC-CATGCATGTC	TAAGT--ACAGGCCG-ATCT-AAG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 6	TCAAAGATTAAGC-CATGCATGTC	TAAGT--ACAGGCCG-AACT-AAG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 7	TGGTTGTCCTCGTTGCTGC-TGTC	TAAGT--ACAAGCCG-ATTC-AAG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
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species 9	TCAAAGATTAAGC-CATGCATGTC	TAAGT--ACAAGCCG-ATGT-AAG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 10	TCAAAGATTAAGC-CATGCATGTC	TNMGT--ACA---CCTCTG--GG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 11	TCAAAGATTAAGC-CATGCATGTC	TAAGT--ACAAGCGCTATG--CG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 12	TCAAAGATTAAGC-CATGCATGTC	TAAGT--ACAAGCCGCTAGA-CG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 13	TCAAAGATTAAGC-CATGCAGGTC	TAAGT--ATAAGCCGAAATA-AA-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 14	TCAAAGATTAAGC-CATGCAGGTC	TAAGT--ACGAGCGGAATA-AAT-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 15	TCAAAGATTAAGC-CATGCAGGTC	TAAGT--ACATGCTCTTATA-TATG	GTAAGCTGC	AAACGGCTCAITAAA--TCA			
species 16	TCAAAGATTAAGC-CATGCATGTC	TAAGT--ACACACCAAATTA-AG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 17	TCAAAGATTAAGC-CATGCATGTC	TAAGT--ACAAGCCCTACAA-GG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 18	TCAAAGATTAAGC-CATGCATGTC	TAAGT--ACATGCCGCAATTA-AG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 19	TCAAAGATTAAGC-CATGCATGTC	TAAGT--ACATGTCGAAATA-AG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 20	TCAAAGATTAAGC-CATGCATGTC	TAAGT--ACAGACCTTCATA-CG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 21	TCAAAGATTAAGC-CATGCATGTC	TAAGA--TCA-AGCTCCTCT-CG-	CGGACA	AACTGC	AAATGGCTCAITAAA--TCA		
species 22	TCAAAGATTAAGC-CATGCANGTAT	CAGT--ACAAGCCTCACTN-AG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		
species 23	TCAAAGATTAAGC-CAACTCATGTC	TAAGA--TCATGCCGAAACCAAG-	GCGA-AACC	GC	AAATGGCTCAITAAA--TCA		

(Andy Vierstraete 1999)

You Practice the Science of Deduction

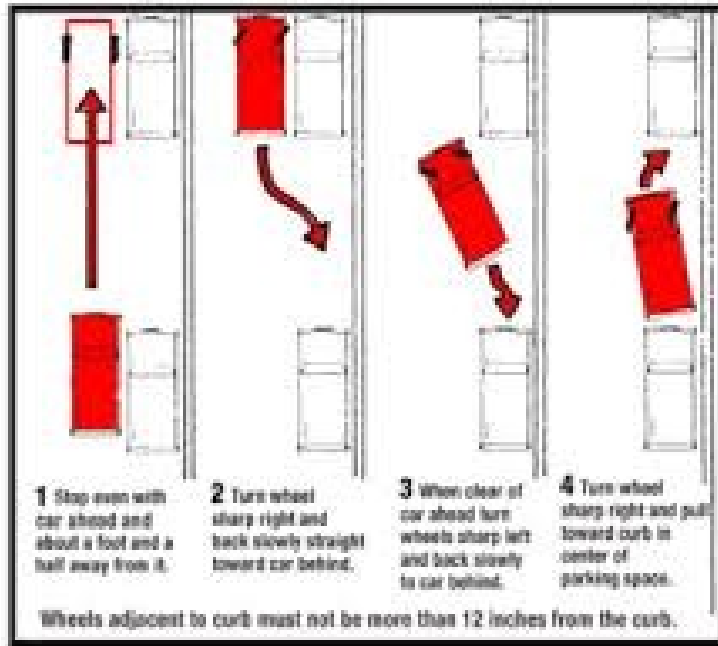


You Have a "Thing" About Encoding Information & Language



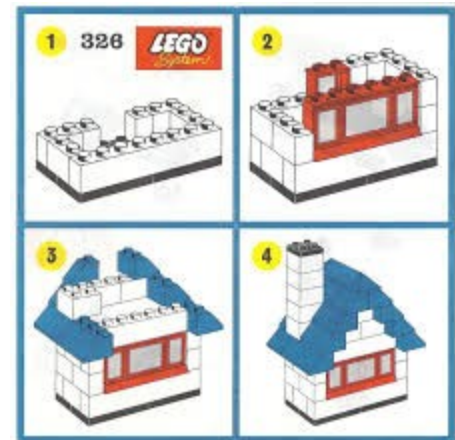
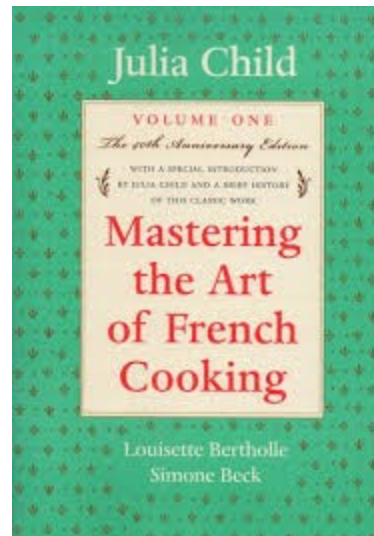
You Have Experience with Step-by-Step Procedures

PARALLEL PARKING



$$\begin{array}{r}
 56 \\
 3 \overline{) 168} \\
 \underline{-15} \\
 18 \\
 \underline{18} \\
 0
 \end{array}$$

$6 \times 3 = 18$



You Had an English Teacher Who Taught You How to Write

An SPSE Essay

Introduction

Outline background and aims

Situation

Background and context for the problem

Problem

What is the problem and its effects?

Solution

Two or more potential solutions

Evaluation

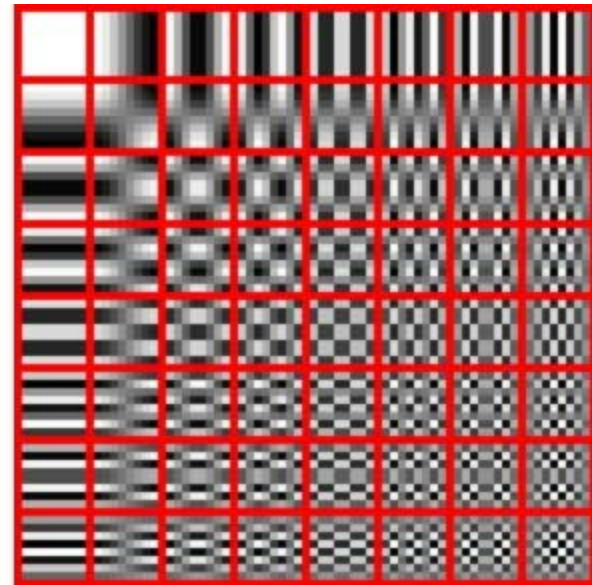
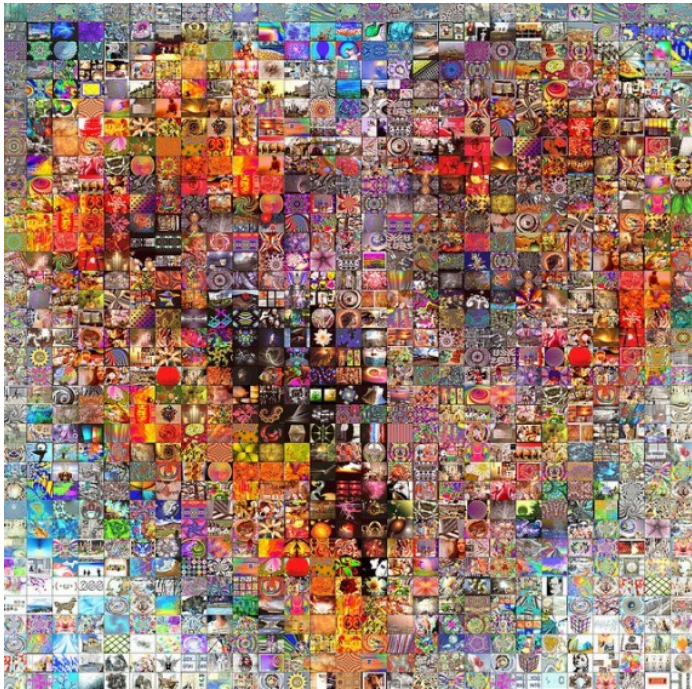
How effective are the solutions?
Which is most effective?

Conclusion

Summarise all main points



You Wonder Why a Picture is Worth 1000 Words



You Wonder How It All Works



Google

$$PR(u) = \sum_{v \in B_u} \frac{PR(v)}{L(v)}$$



CS 1110: It's About the Car and...



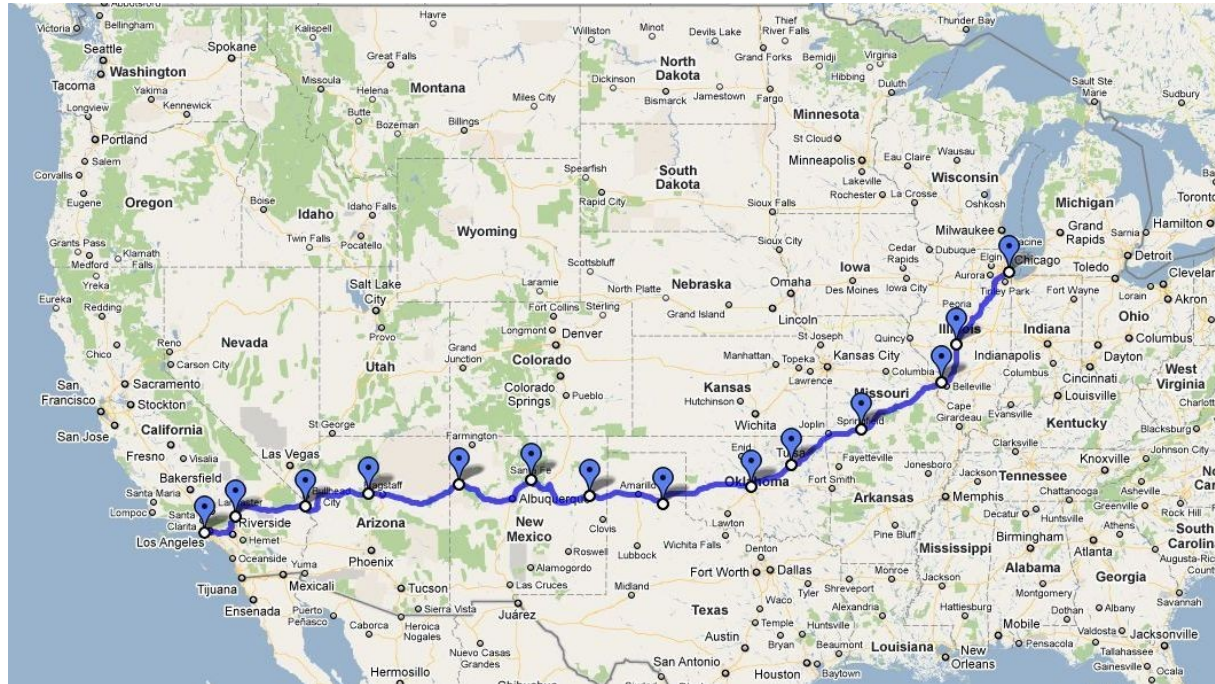
what you see out the window.

The Car is Important



That is why we use Python.
it will get you to L.A.

The Route is Really More Important



It determines what you see
and what you might revisit.

Let's Get Set

Here are two things that you
can do right now.

1. Bookmark the Course Website

<http://www.cs.cornell.edu/courses/cs1110/2016sp>

Any time that you are about to work on any aspect of CS1110, you should first check the Announcements Page.

If you do not see this logo, then you are on the **WRONG** website!



2. Read Through the Course Website

- How is the Course staff structured?
- What about Office Hours?
- How do we use Piazza?
- How do you get the book Think Python?
- How do Lectures and Labs work?
- What about Exams, Assignments, and Grading?
- What is CS 1110 Academic Integrity?
- How do you get your laptop set up?

Start-of-Term Issues?

- If you have a problem with the section that you are in or not in, be patient and follow the latest advice offered on the Announcements page.
- Special paperwork or situation? Wait until next week or visit us in Olin 128 10:10-11:00 any TuTh starting today

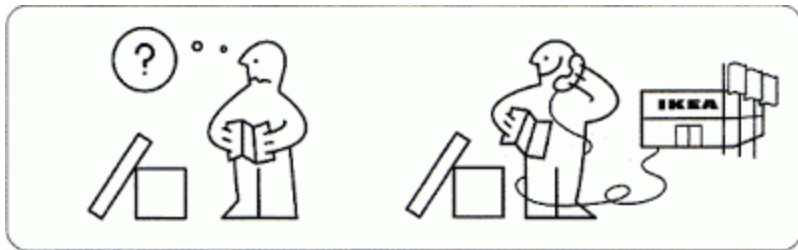
Two things to
keep in mind right from the
start....

1. Have a Staggered Start Perspective



Your "better prepared" classmates do not really have an advantage."

2. Do Not Be Afraid to Ask For Help Early



It is not a sign of weakness.