

# Previously on E&I...

How to formulate a winning Value Proposition

# A quick recap of Class 9

- ▶ VP: A concise declaration detailing what we offer.
- ▶ Attribute Value Mapping
  - ▶ A tool to learn why customers buy from us
  - ▶ Unearth and highlight the core value-generating attributes
- ▶ A technique to validate the key attributes in terms of their Uniqueness and Attractiveness
- ▶ A working template:  
Action Verb - Object of the Action - Context of the Action.

# What went on in the last weeks?

- ▶ ~~Partial Exam~~
- ▶ ~~First presentation~~
- ▶ ~~Progress update presentation~~
  
- ▶ What you currently have:
  - ▶ Problem, Solution, Customer profile(s), Personas
  - ▶ Some evidence from secondary sources
  - ▶ Competitive Analysis
  - ▶ Value Proposition
  
- ▶ Not homeworks but part of the development process

# What comes next?

- ▶ Second presentation: October 22
- ▶ A lot of groundwork
  - ▶ ~~Developing a prototype~~
  - ▶ ~~Getting out there to talk to people~~
  - ▶ ~~Update and refine your prototype~~
  - ▶ ~~Go deep into the industry/sector/market/segment~~
  - ▶ Market Research (demand estimation and marketing plan)
  - ▶ Refine and update your prototype
  - ▶ Primary Research (resources, funding)

# The demand estimation is the crucial, tipping point

The cost structure, marketing plan, financial indicators, all stem from it.

# ENTREPRENEURSHIP AND INNOVATION

Class 11 - Product/market fit: A roadmap to demand  
estimation

Javier A. Rodríguez-Camacho, Ph.D.

Pontificia Universidad Javeriana in Bogotá, Fall 2018

# What does product/market fit mean?

- ▶ “Being in a good market with a product that can satisfy its needs.” (Horowitz 2007)
- ▶ A situation where a product satisfies the real needs of a customer better than the competition (Olsen 2015)
- ▶ **When** your venture is **generating value** for some customers
  - ▶ You are already here when you have validated your Value Propositions with some customers!

# What does product/market fit mean?

- ▶ It is an intermediate step between customer validation and customer creation
  - ▶ **Start:** When you have validated your VP with some customers and obtained positive feedback (or adjusted it)
  - ▶ **End:** When market goals which can be attained through a marketing plan are established

# When can you know when (if) you have arrived?

Demand estimation provides us with some data-based indicators

# How can we know our demand?

- ▶ There are two main approaches:
  - ▶ Forecasting
  - ▶ Estimation
- ▶ Forecasting only applies when you have past sales
  - ▶ Not our case.
- ▶ Estimation tries to test customer hypothesis on a large scale, using data.
  - ▶ Often from primary sources.

# How can we estimate our demand?

- ▶ Basically using quantitative and qualitative methods
- ▶ They are complementary
  - ▶ And should ideally be combined
  - ▶ The decision usually boils down to:
    - ▶ The time and resources you have to generate the data
    - ▶ The tools and techniques you are comfortable with.

# Qualitative market research methods

- ▶ Interviews (in person, open or closed)
- ▶ Focus groups
- ▶ In-lab experiments (small scale)
- ▶ Observation and ethnographies (small scale)

# Quantitative market research methods

- ▶ Surveys
- ▶ (Large scale) Data mining
- ▶ Regression analysis
- ▶ Structural equations
- ▶ Simulation

# A sequence of steps to obtain an approximation of your demand

Not a recipe, but a logical series of steps

Customer profiles



Translate the profiles to numbers



Determine the TAM



Determine the SAM



Device a launch plan



Production and sales landmarks

# Translate the customer profiles

- ▶ **Input:** Properly specified customer profiles
  - ▶ Using secondary sources you go from a literal description to a numeric one (DANE, INE, BEA, Census Bureau, OCDE)
  - ▶ Eg: PUJ MBA students from socioeconomic levels 4, 5, and 6 living in the neighborhoods of Usaquéen and Chapinero
  - ▶ 178 people (De la Vega, 2018)
- ▶ **Output:** Total size of the populations representing such customers

Customer profiles



Translate the profiles to numbers



Segment the TAM

# Segment the Total Addressable Market

- ▶ **Input:** Total sizes of the customer populations
  - ▶ Using secondary sources you calculate the specific size of the market/sector/industry (in \$\$\$ revenue or units shipped)
  - ▶ Eg. Monthly income devoted by a Colombian family to food: 29.7% ([DANE 2016](#))
  - ▶ Monthly expenditure of our target customers: 3.8 million COP
  - ▶ TAM: 1.13 million COP a month
  - ▶ [Ingreso y gasto de los hogares, DANE](#)
- ▶ **Output:** Total Addressable Market - the whole market's size

Customer profiles



Translate the profiles to numbers



Segment the TAM



Segment the SAM

# Segment the Service Available Market

- ▶ **Input: The TAM**
  - ▶ Using primary sources you calculate the maximum size of the market you could serve ( $TAM \geq SAM$ )
  - ▶ Ej. A 18% of MBA students are willing to buy our product.
  - ▶ Estimated revenue: 205 000 COP
  - ▶ Every unit is sold for (POS) 3500 COP
  - ▶ Estimated demand: 58 units a month. (Not  $178 \cdot 0.18$ )
- ▶ **Output: Service Available Market** - the maximum market segment you can aspire to.

Customer profiles



Translate the profiles to numbers



Segment the TAM



Segment the SAM



Device a launch plan

# Device a Launch Plan

- ▶ **Input:** Total Demand. Resources needed (technology, materials, finances, etc.)
  - ▶ According to the characteristics of the project.
  - ▶ Eg: 20 units the first month, 40 on the third, 60 from the sixth month on.
  - ▶ Scale a target market share: 20% after the first year, 5% each quarter.
- ▶ **Output:** A time line with quantities to produce and sell.

Customer profiles



Translate the profiles to numbers



Segment the TAM



Segment the SAM



Device a launch plan



Production and sales landmarks

Let's work together on an  
example

# Example

- ▶ **Problem:** Children who go to elementary school are exposed to a number of germs and bacteria, particularly the flu. This causes them to get easily sick, becoming infection vectors to their whole families.
- ▶ **Solution: ?**



number of flu cases per year



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About 5,900,000 results (0.89 seconds)

5% to **20%** -- Percentage of the U.S. population that will get the flu, on average, each year. **200,000** -- Average number of Americans hospitalized each year because of problems with the illness. 3,000 to 49,000 -- Number of people who die each year from flu-related causes in the U.S. Oct 27, 2015

[Flu Statistics: What Are Your Odds of Getting the Flu? - WebMD](#)

[www.webmd.com/cold-and-flu/flu-statistics](http://www.webmd.com/cold-and-flu/flu-statistics)

About this result Feedback

### People also ask

How many people does the flu kill each year?

How many people are hospitalized because of the flu?

How many people have died from the flu in 2013?

Why is there a season for the flu?

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[Flu Statistics: What Are Your Odds of Getting the Flu? - WebMD](#)

[www.webmd.com](http://www.webmd.com) > [Cold, Flu, & Cough](#) > [Reference](#)

Oct 27, 2015 - 5% to 20% -- Percentage of the U.S. population that will get the flu, on average, each

# More evidence from secondary sources

## Avoid the 'back-to-school plague'

By **Jen Christensen, CNN**  
Updated 1823 GMT (0223 HKT) August 2, 2016



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## Why do so many kids get sick at back-to-school time?



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# Example

- ▶ **Problem:** Children who go to elementary school are exposed to a number of germs and bacteria, particularly the flu. This causes them to get easily sick, becoming infection vectors to their whole families.
- ▶ **Solution:** A candy that eliminates bacteria from children's soft palate using a moderate strength antibiotic, also reinforcing their immune system through a combination of amino acids and vitamins.

# “The magic”

## MIT News

ON CAMPUS AND AROUND THE WORLD

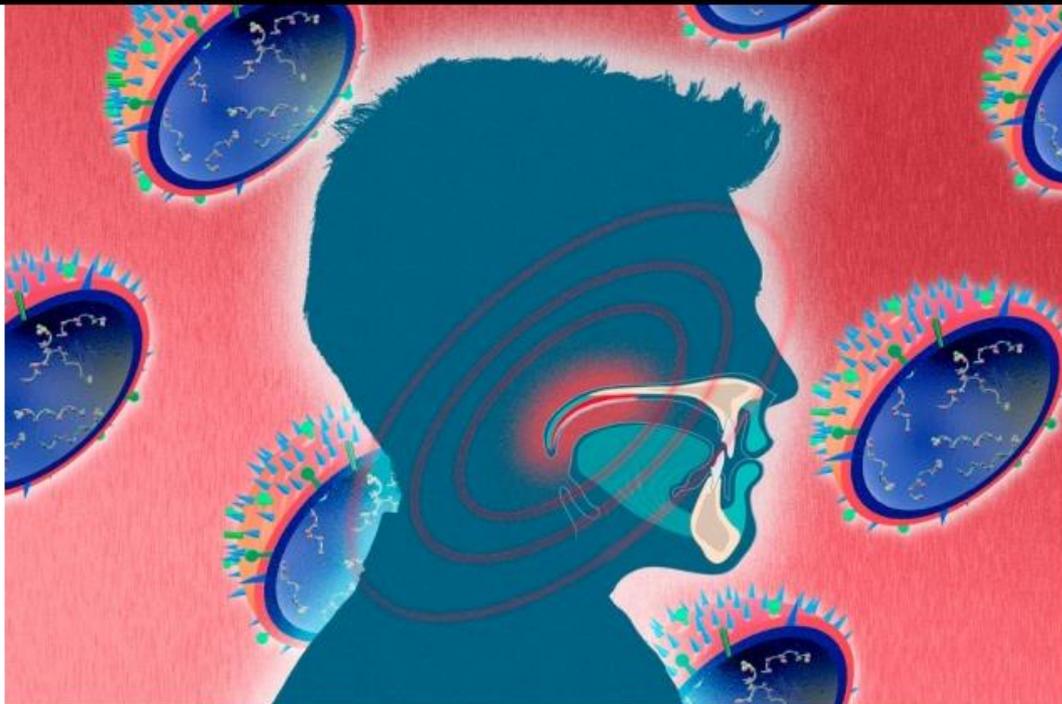
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FULL SCREEN



MIT researchers find the soft palate (in red) — the soft tissue at the back of the roof of the mouth — plays a key role in how the flu virus (in background) travels through the air.

Illustration: Jose-Luis Olivares/MIT (flu Virus illustrations courtesy of NIH)

## How flu viruses gain the ability to spread

New study reveals the soft palate is a key site for evolution of airborne transmissibility.



antibiotics crisis



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## The Antibiotic Resistance Crisis

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4378521/>

by CL Ventola - 2015 - Cited by 139 - Related articles

This is the first of two articles about the antibiotic resistance crisis. Part 2 will discuss strategies to manage the crisis and new agents for the treatment of bacterial ...

[THE HISTORY AND ...](#) · [CAUSES OF THE ...](#) · [ANTIBIOTIC-RESISTANT ...](#)

## Antibiotic crisis bigger than Aids as common infections will kill, WHO ...

[www.telegraph.co.uk](http://www.telegraph.co.uk) > News > Health > Health News

Apr 30, 2014 - Common infections and minor scratches could soon kill because antibiotics are becoming useless against new superbugs, World Health Organisation warns. ... The crisis is bigger and more urgent than the Aids epidemic of the 1980s, it was warned. ... Dr Lo Fo Wong warned that antibiotic ...

## Too few antibiotics in pipeline to tackle global drug-resistance crisis ...

<https://www.theguardian.com> > Society > Antibiotics ▼

Sep 19, 2017 - Too few antibiotics are in the pipeline to tackle the global crisis of drug resistance, which is responsible for the rise of almost untreatable ...

## Could ants be the solution to antibiotic crisis? | Society | The Guardian

<https://www.theguardian.com> > Environment > Antibiotics ▼

Sep 24, 2016 - Bacterial defences of fungus-farming ants could help in medical battle against superbugs.

# After consulting some physicians



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### Flu season: Fewer than half of Americans vaccinated, officials call for nearly everyone to get a shot

- Fewer than 50 percent of all Americans were vaccinated against the flu last season.
- Officials want at least 70 percent of people to get a flu shot.
- This season, officials say people should only get an injectable vaccine, not a nasal spray vaccine.

Dan Mangan | [@\\_DanMangan](#)

Published 11:29 AM ET Thu, 28 Sept 2017

# Example

- ▶ **Problem:** Children who go to elementary school are exposed to a number of germs and bacteria, particularly the flu. This causes them to get easily sick, becoming infection vectors to their whole families.
- ▶ **Solution:** A candy that **supplies a dose of the flu vaccine to school-age children**, also reinforcing their immune system through a combination of amino acids and vitamins.

# Example

- ▶ **Value proposition:** A box with 10 chewable candy of the gummy-bear type, with fruit flavor and a FLUVAX18 formula, supplying a dose of the flu vaccine to school-age children.



# Example

- ▶ Customers:
  - ▶ Parents
  - ▶ School-age children (5 to 12 year-old)
  - ▶ Pediatricians and Family doctors
  - ▶ Schools
  - ▶ Drugstores, Supermarkets
  - ▶ Health centers, Insurance companies, etc.

# Why is it innovative?

- ▶ Hygiene and diet problems
- ▶ Allergies and seasonal ailments
- ▶ Low vaccine take-up
- ▶ Obstacles to generating domestic protection routines in the family (other)
- ▶ We offer a convenient alternative, with a low cost and targeting the interaction point directly, clearly focused in one of the transmission factors of the flu.

# How to estimate the demand?

- ▶ First verify that it is a real problem, has an attainable solution, and what we propose interests the customers
- ▶ Define the customers profile:
  - ▶ Families with children between 5 and 12 years old, living in the US
- ▶ Translate to numbers:
  - ▶ 25 million ([US Census Bureau, 2014](#))

# How to estimate the demand?

## ▶ Calculate the TAM

- ▶ The average family expenditure in health in the US is 25000 USD ([2015](#))
- ▶ The expenditure on bronchitis treatments is 226 USD a year (13.3% corresponding to medication) ([F1](#), [F2](#))
- ▶ [Antibiotics expenditure](#)
- ▶ We take 25% of  $(226 * 0,133) = 7.5 \text{ USD} * 25 \text{ million} = 187\,500\,000 \text{ USD / year}$

# How to estimate the demand?

- ▶ Calculate the SAM

- ▶ We need primary sources here

- ▶ A third of Americans use alternative medicine ([2013](#))

- ▶  $187\,500\,000 * 0.3 = 56\,250\,000$  USD/year

# How to estimate the demand?

## ▶ Calculate the target

- ▶ We need primary sources here too
- ▶ We will cover a 10% of the SAM on the first year = 5 625 000 USD
- ▶ Units? At a price that cannot go above 5 USD it would be 1 125 000 units / year
- ▶ Approximately 3200 boxes of the product every day

# Now you have a chance to work on estimating your demands

As a homework

# Homework

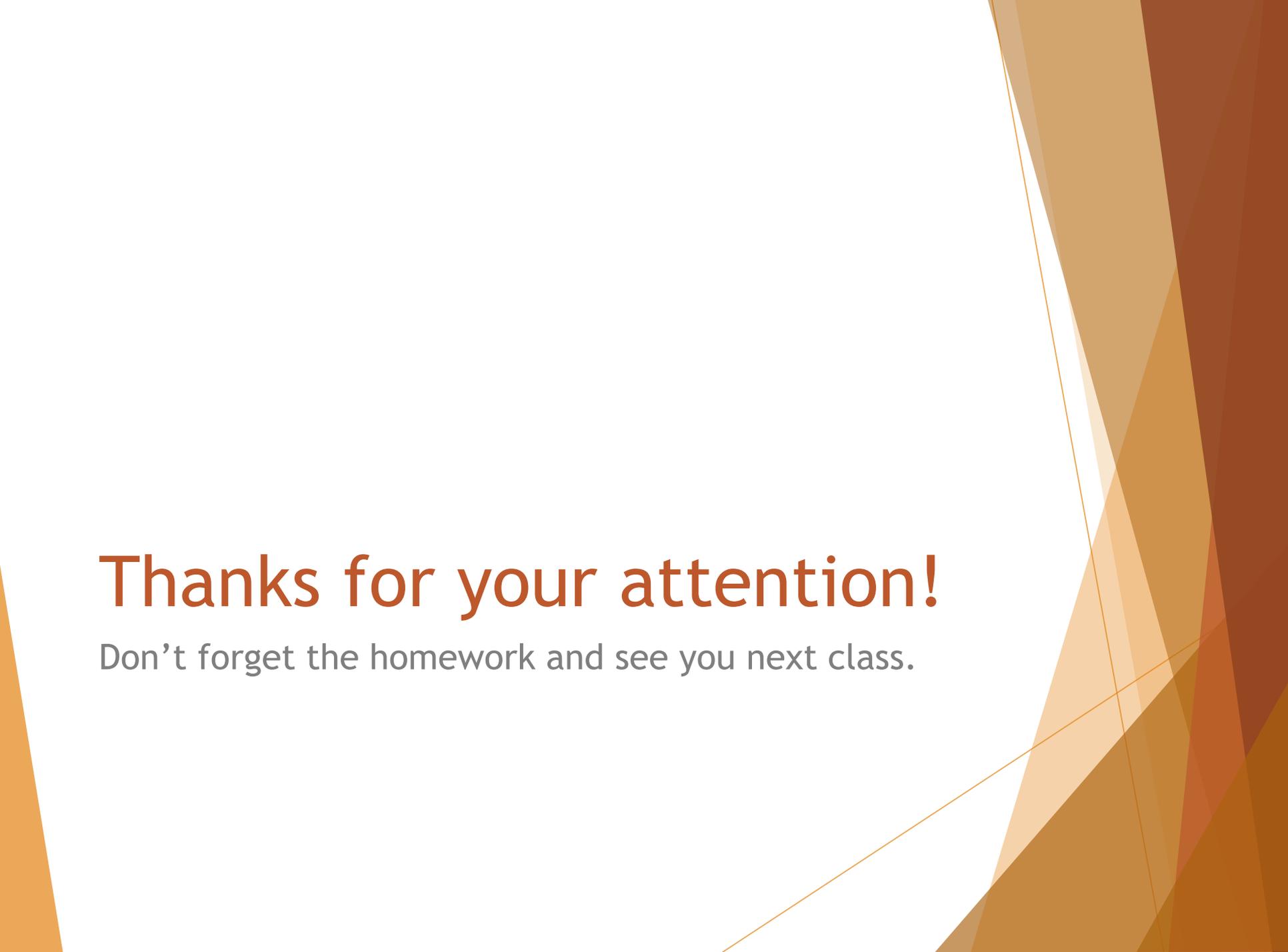
- ▶ Estimate the TAM, SAM, and target market for your projects
- ▶ Send me those answers, with properly detailed sources, before the end of the week.
  - ▶ Or bring them in print next Monday.

# Primary Market Research Strategy

- ▶ Think about the **marketing research strategy** and tools you will use for your primary research
  - ▶ Tools? Methods?
  - ▶ The questions you have prepared for each type of customer
  - ▶ Sample sizes, etc.
- ▶ Ideally you should be able to start with it on October 2
- ▶ Present the plan and tools next Monday.

# Homework-ish

- ▶ Flipped Classroom 8
  - ▶ Marketing tools and techniques for start-ups
  - ▶ Just watch them.



# Thanks for your attention!

Don't forget the homework and see you next class.