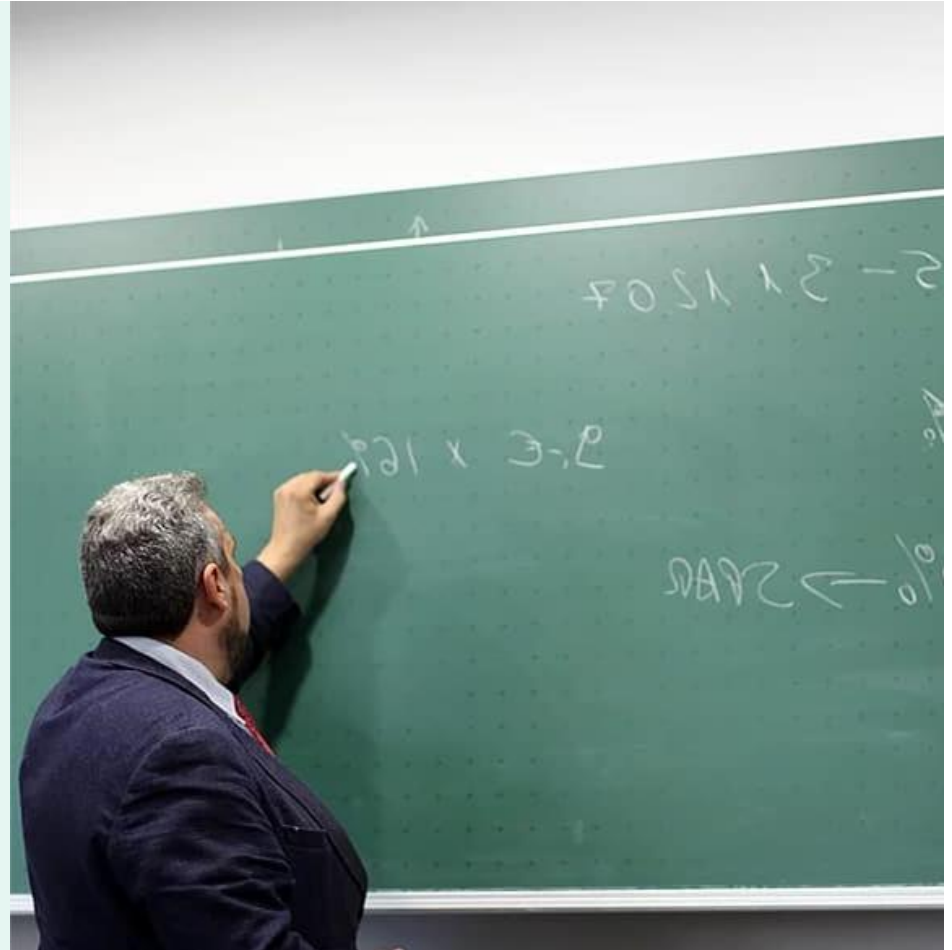




## Building Critical Thinking through Guesstimates

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## What are Guesstimates?



### Definition:

An estimate (approximation) made with the limited information available. It's thus a best GUESS



In a more sophisticated language it is an educated/calculated GUESS

**Guess + Estimates**

- A guesstimate is a quick and approximate estimate.
- It is a useful tool for making decisions when you don't have all the information you need.
- Guesstimates can be used to estimate quantities, costs, or time.

# Examples of Guesstimates



## Let's Estimate

- Average age of students in this class
- Number of buildings in your city
- Number of students in a school
- Number of burgers sold in a day in McDonald's
- Number of iPhones sold in your city

## Approaches to Solve Guesstimates?

01

### Household approach

Household approach is used when a product or service is collectively used by people in a house and patterns can be identified for that group  
For eg: Car, Sofa, TV

02

### Population approach

Population approach is used when we have to estimate the usage of products or services that apply individually to single person and then group them basis their behaviours to come to the final number

03

### Bottleneck approach

Bottleneck approach is used when there are certain capacities or restrictions to a process. It is important to identify the bottlenecks and then estimate the frequency of such constraints

## Key Buckets to Use as Starting Point

**01** Rural vs Urban Split

**02** Income Split

**03** Gender Split

**04** Age Split

## Key Points to Remember:

- One or a combination of filters can be used to arrive at the solution
- Always assume easy numbers – round figures
- These splits would differ according to country, city, time-period we are talking about. For eg: Urban population in India is just 30% which is 70% in US
- Common sense and knowledge of the world is helpful but should be used with caution
- The main purpose of using splits is to provide a proper structure to solving a problem which also demonstrates your thought process and clarity

## Guesstimates Datasheet – Numbers to remember

Population & Area Data			
Note: Average household size in India is 4-5			
	Population	# Households	Area
India	1.4 bn	300 mn	3.3m sq km
America	300 mn	60 mn	10m sq km
Europe	450 mn	90 mn	10m sq km
Mumbai	20 mn	5 mn	600 sq km
Delhi NCR	30 mn	7.5 mn	1500 sq km
Bangalore	14 mn	3.5 mn	700 sq km
Your City	<Add>	<Add>	<Add>

Population Segmentation of Rural India by Income		
	Avg household income	% of population
Middle Class	>20,000 pm	30%
Lower Middle Class	9,000 - 20,000 pm	50%
Below Poverty Line	<9,000 pm	20%
Note: Poverty line is defined as below Rs.25 per day per person		

Population Segmentation of Urban India by Income		
	Avg household income	% of population
Super Rich	>1.5 LPM	5%
Upper Middle Class	80,000pm - 1.5 LPM	15%
Middle Class	20,000 - 80,000 pm	30%
Lower Middle Class	9,000 - 20,000 pm	40%
Below Poverty Line	<9,000 pm	10%

	Rural Population	Urban Population
	70%	30%
Internet penetration:	30%	90%

Men	Women	Working Population	Non-working Population
50%	50%	50%	50%

## Steps to Follow to Solve the Guesstimate:

### 01 Clarify the scope

Break the problem to understand what things to consider

For eg: Time period, product/service specifications, different use cases, unit of measurement, place etc

### 03 Specify the Approach

Mention the approach that you using to breakdown the problem. Be vocal about the process that you are following throughout – both in writing & interviews

### 02 State the Assumptions

Clearly state the assumptions that you are making to solve the problem

For eg: which country you are taking, which group you are solving for, Income/age groups that are being used

### 04 Make the Framework & Solve

Create a framework using the approach and the key buckets so that the thought process that you are following is structured and shows practice

## Key Strategies to Keep in mind while solving:

- Understand the problem by asking question, don't jump to solving directly
- Clarify what time-frame we are talking about
- Remain vocal about how you are solving to the interviewer. If doing on paper show your calculations clearly
- Practice quick calculations to be more efficient
- You can solve for a month/year and find it for a day/hour/minute/seconds
- Replacement frequency of a commodity in question (for products like cars/ACs)
- Ask about occupancy rate (everything is NOT 100% efficient)
- You can fall back on examples from your life and make adjustments to it (only if you cannot think of anything)
- Keep taking feedback
- Solve the problem using an issue tree so that all factors considered a right in front of your eyes and if anything needs to change you wouldn't have to panic



## Let's Solve a Guesstimate Together:

Estimate the:

- Number of windows present in your city
- Number of buildings in your city
- Number of students in a school
- Number of burgers sold in a day in McDonald's
- Number of iPhones sold in your city
- Number of people who upload videos on Instagram
- Number of people who would watch Cricket World Cup 2023
- Number of flights that take off from Delhi Airport