= class starts @ 9:03 PM =

DA - cumulative test → SQL, Python, Tableau + Excel, Data Analysis

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Guesstimation → 2 classes

↳ estimation with sensible assumptions & guess work

→ need not be perfect

*** → Thought-process

Why asked → Break an open-ended problem into smaller chunks

↓

solve step by step

(Q) How many cups of coffee are sold in US every day

U U

Total Population of US ≈ 300 Million

break down

→ Kids dont drink coffee → 13+

Non-kid Population (13+) ≈ (80%) → 240 Million

percentage of 13+ who drink coffee } ≈ (65%)

= 65% of 240M

= 156 Million

avg # of cups of coffee per person } = (2-3)

approx # of cups of coffee per day } = 312-468 Million

↓

~400 Million

---

1. CLARIFY
2. ANALYZE

(2) ANALYZE

(3) BREAKDOWN

(4) CALCULATION

(5) VALIDATE

Framework

↳ common sense; interviewer; Google

= use chat GPT or Bard. Google to practice guestimation =

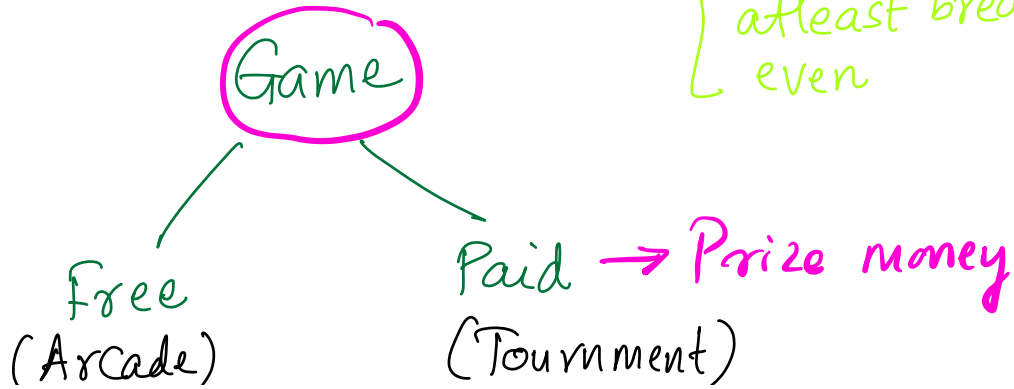
Problem: Game 24/7 : Fremium

Tournment { Winner → 1 lakh prize money
Runner-up → 50K price money } Paid users

(Q) what should be the entry "fee" for the tournment (paid users)

↓

[atleast break even



Royalty cards:

→ skins; colors; .... (cosmetic accessories)

→ no advantage in the tournment

Ads:

- 30 sec ad @ the start of the game
- only for free users

Revenue generation

1. Entry Fee — (?)
2. Royalty Cards
3. Ads → Gaming laptop / Mouse .....

Expenses:

1. Prize-money — 1 lakh + 50K INR
2. Server hosting
3. Maintainance-cost → to run the game

④ Promotion → ads on Youtube

→ Celebrity - gamers (influencers)

Newly launched Game

Entry Fee

① # active users ≈ 5K

② Free : paid users = 80 : 20

Royalty Cards

③ % age of users buying Royalty Cards = 15% of total users

④ Revenue per user who buys royalty cards = 2500 Rs per month

Ad

⑤ 5 arcade games (Free) → ads & 1 tournment a day → No ads

- 30 sec ad for free users

⑥ Per 30 sec ad → 1 lakh per day for all games

costs

(7) Server hosting → 5 lakhs/month (free & paid)

(8) maintainance cost → 3 lakhs/month

(9) Promotion : Youtube ads
↳ 15,000 Rs per day

Promotion : Influencer (Celebrity)
one time : 5 lakh Rs per month

↓

CapEx → developing game

OpEx → maintainance; promotion; server

Calculation: (per month) (30 days)

active users = 5K

paid users = 1K (20%)

Let entry fee for the tournament: (x) Rs

Total amount from paid users

$= 1K \times x \times 30 = 30K\,x$

Royalty Card revenue $= (5000 \times 0.15) \times 2500$

$= 18.75$ lakh

Revenue from ad hosting

$= 1 * 30 * 1$ lakh $=$ 30 Lakhs

Income / Revenue

↳ $30K\,x + 18.75L + 30L$

$= 48.75L + 30K.x$

Costs:

Prize money: 1.5×30 days $= 45$ Lakhs (1 + 0.5)

Promotions $= (15K \times 30$ days$) + 5$ Lakhs (Youtube, Influencer)

$= 9.5L$

Total costs: $3 + 5 + 9.5 + 45 = 62.5L$

maintainance, Server, Promotions, Cash Prize

Revenue = Costs

$30K\,x + 48.75L = 62.5L$

$x \approx 45\,Rs$ ✓ → + Profit margin

→ more complicated than # cups of coffee consumed per day in US

Established - Mature Game:

active users: 25K

free : paid : 90% : 10%

Royalty card purchasers: 5% of total users

Revenue per Royalty card user: 2500 per month

{ 10 arcade games per day
{ 3 tournaments per day

→ 1 lakh Rs per day from ads shown

→ Promotions → 5K / day

→ Server costs = 25L / month

→ maintaince costs = 15L / month

→ same prize money: 1L+0.5L per tournament

25k users

↓

10% → 2.5k users

Entry Fee [month → 2.5k x 3 x x 30 = 225k x

Royalty cuts [0.05 x 25k x 2500 = 31.25L

ad revenue [30 x 1L = 30 Lakhs

Total Revenue: 30 + 31.25 + 225k x

= 61.25L + 225x (x)

Costs:

Prize money: 1.5 x 3 x 30 = 135L — biggest cost

Promotions: 5k per day x 30 = 1.5L

Total costs: 135L + 1.5L + 15 + 25L

= 176.5L

Costs = Revenue

$176.5L = 61.25L + 225k\,x$

$x = 51.22\,Rs$] → due to prize money.

Lets: { $1L \xrightarrow{1/3^{rd}} 33.33K$, $0.5L \rightarrow 16K$] Change the prize money $1/3^{rd}$

Then,

Prize money $= (1+0.5) \times 30 = 45L$

(across all 3 tournaments)

Costs = Revenue

$81.5L = 225k\,x + 61.25L$

$x \simeq 11.22\,Rs$