MBA CORE 2025

DILR

Basics of LR Based DI

L3

By Amit Surana Sir

QUICK Recap

LR

- Basics of DI

TOPICS *to be covered*

1. Basics of LR Based DI

DILR Expert

AMIT SURANA

- 10+ Years of Experience
- Aeronautical Engineer
- Nurtured many 99+ %ile achievers
- Mentored for CAT, GMAT, GRE & OMETs

LR Based DI

1. Venn Diagrams
2. Missing Data

Venn Diagrams

1. 2 Set VD
2. 3 Set VD
3. 4 Set VD
4. Distribution Based
5. Optimization Based
   - max/min (worst)

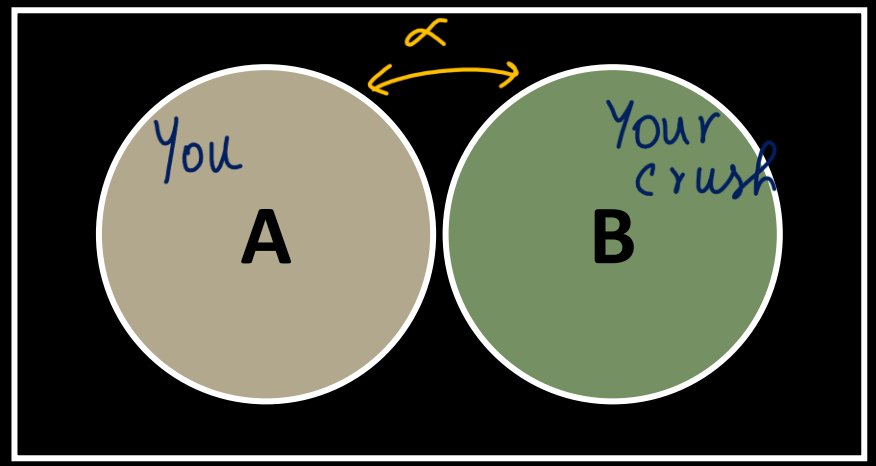
Understanding Venn Diagrams

$\cap$

$A \cap B$

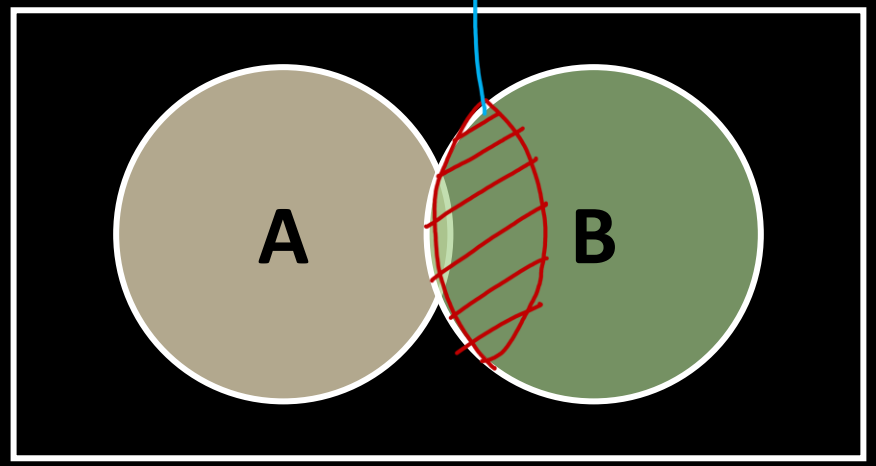
belongs to

$A \in B$

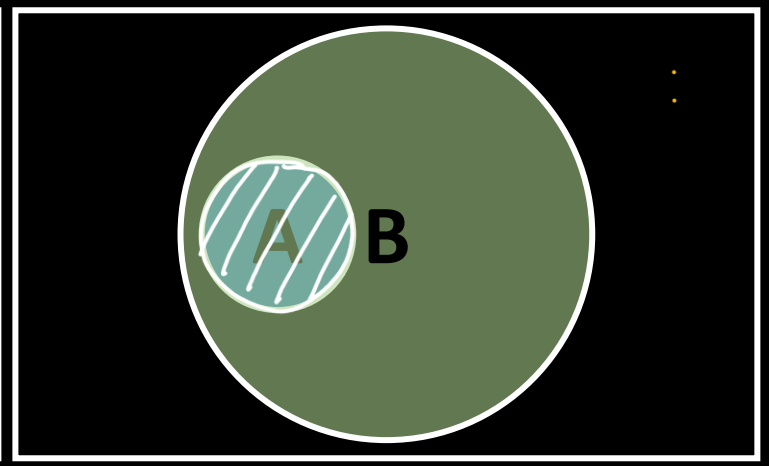


Disjoint Sets

Nothing in common

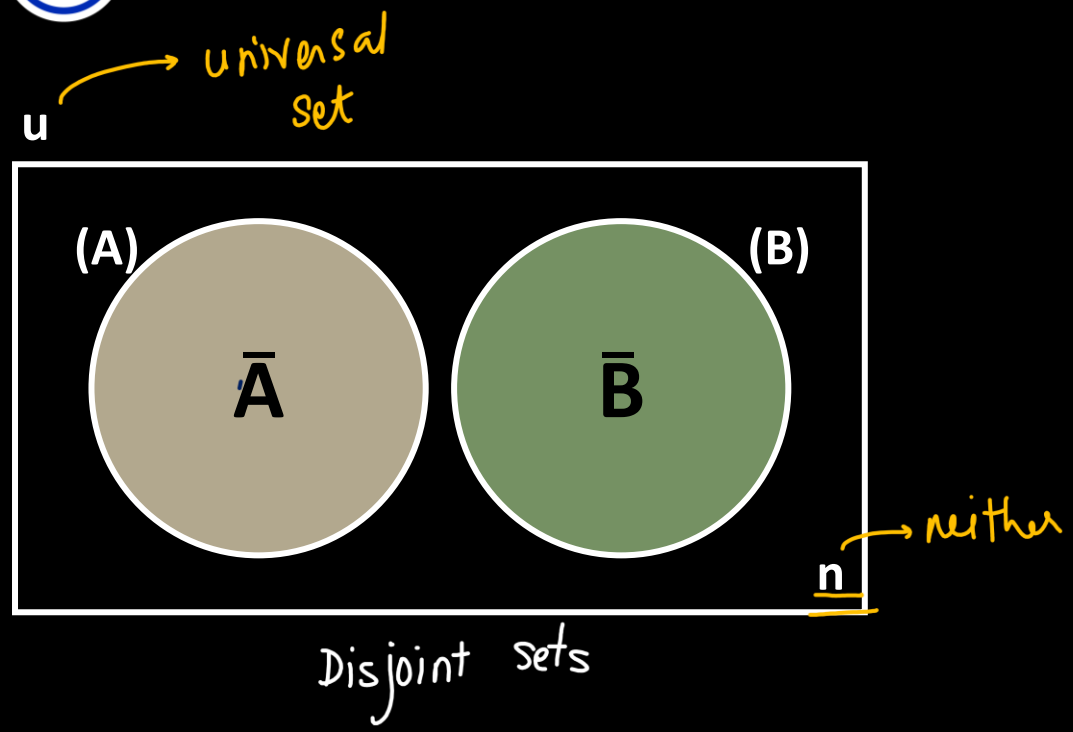


Intersecting Sets

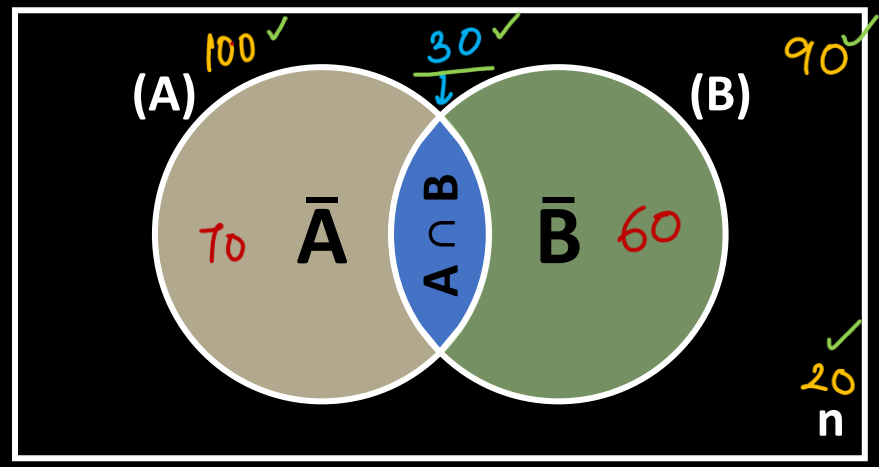


Subsets

2 Set VD



u = 180



A inclusive → only A

$(A) = \bar{A} + A \cap B \rightarrow \bar{A} = (A) - A \cap B$

$(B) = \bar{B} + A \cap B$

Cricket $A = 100$

$A \cap B \rightarrow$ both A & B

(*) only A = $A \cup B$ → either A or B

football $B = 90$

$\text{Total } (U) = \bar{A} + \bar{B} + A \cap B + n$

$= 70 + 60 + 30 + 20$

$U = 180$

$U = A \cup B + n$

$A \cup B = \bar{A} + \bar{B} + A \cap B$

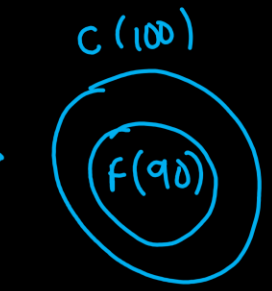
$= (A) - A \cap B + (B) - A \cap B + A \cap B$

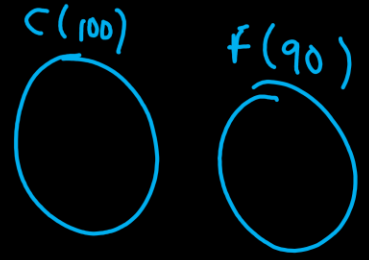
$A \cup B = (A) + (B) - A \cap B$

Total = ?

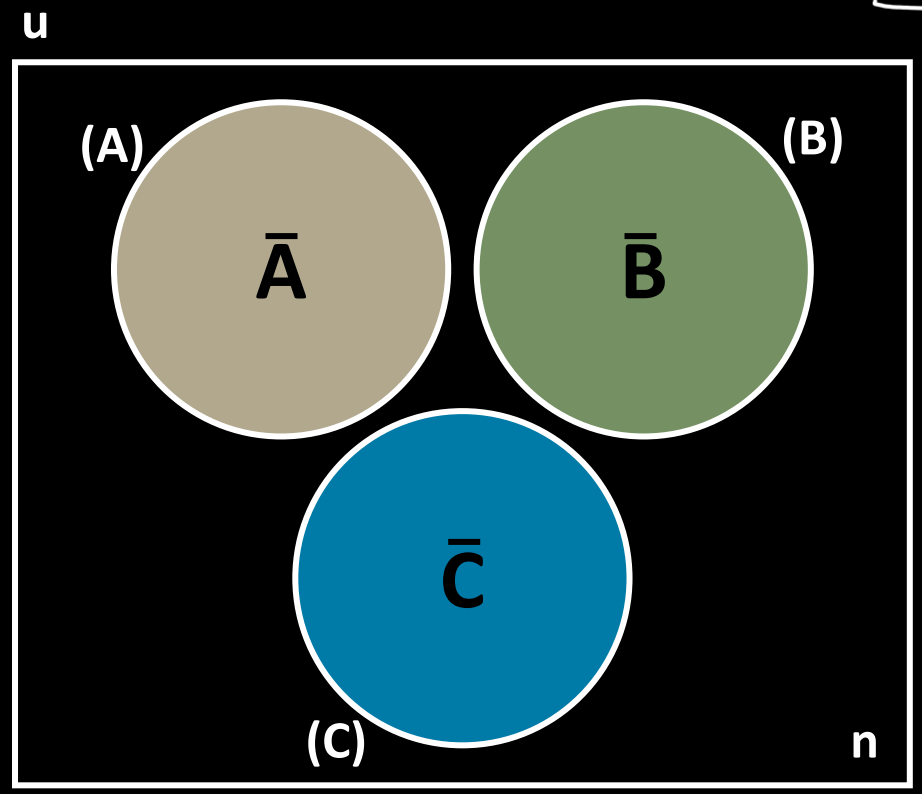
min possible = 100

max possible = 190





disjoint-sets No problem.

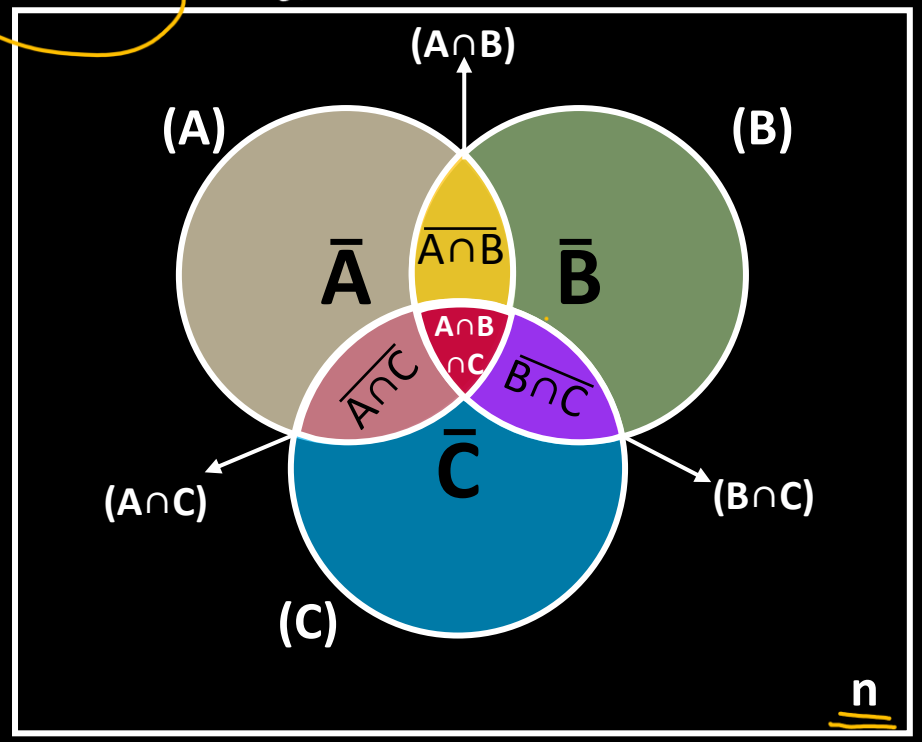


3 Set VD

only 1 set $(A, \bar{B}, C)$

only 2 sets $(\overline{A \cap B}, \overline{B \cap C}, \overline{A \cap C})$

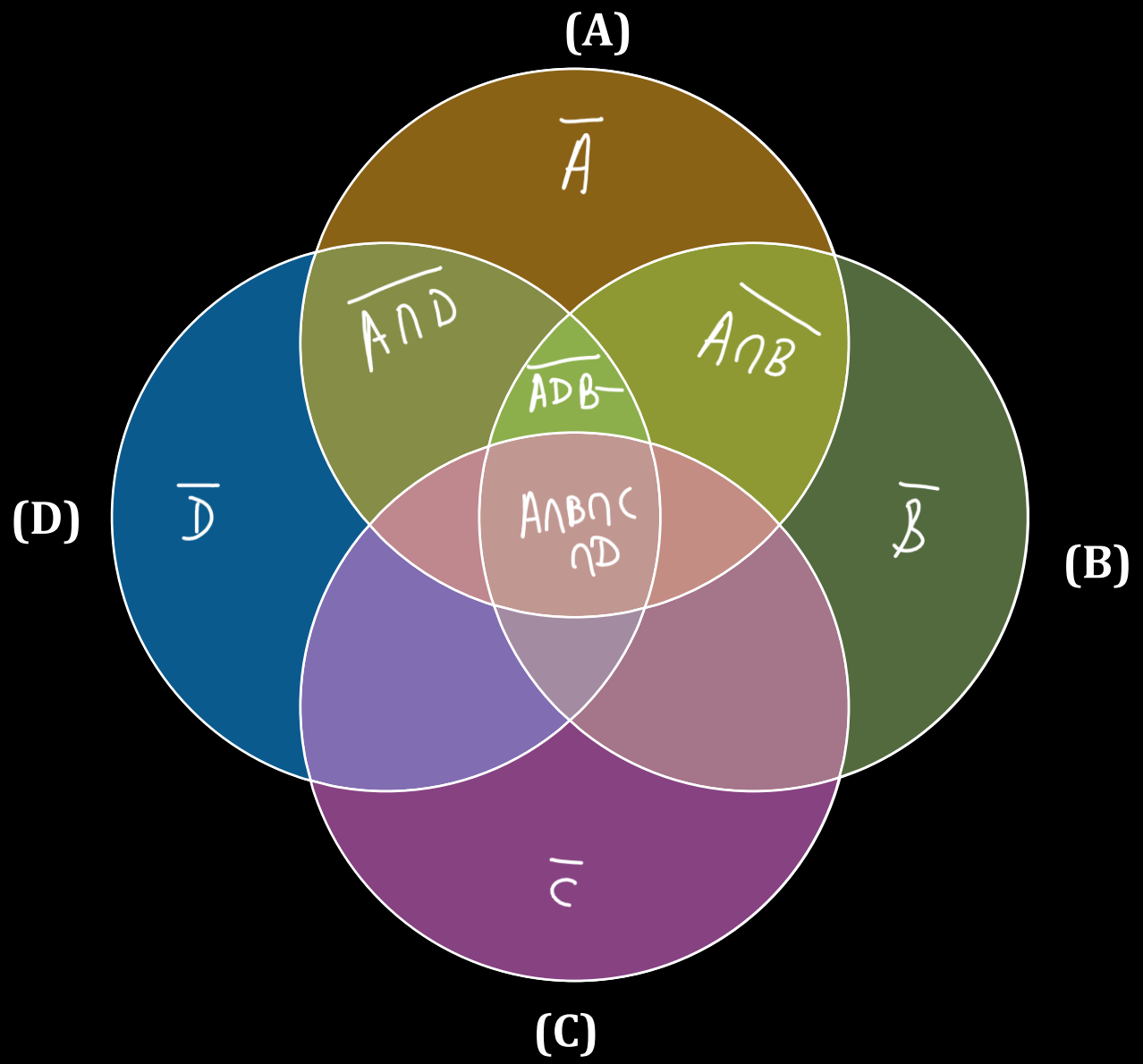
all 3 sets $(A \cap B \cap C)$



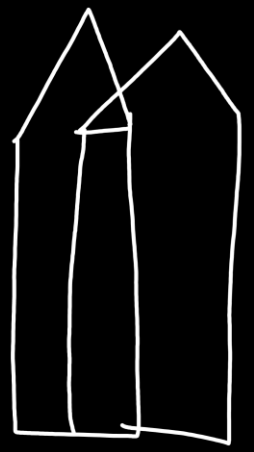
$$\begin{cases} (A \cap B) = \overline{A \cap B} + A \cap B \cap C \\ (B \cap C) = \overline{B \cap C} + A \cap B \cap C \\ (A \cap C) = \overline{A \cap C} + A \cap B \cap C \end{cases}$$

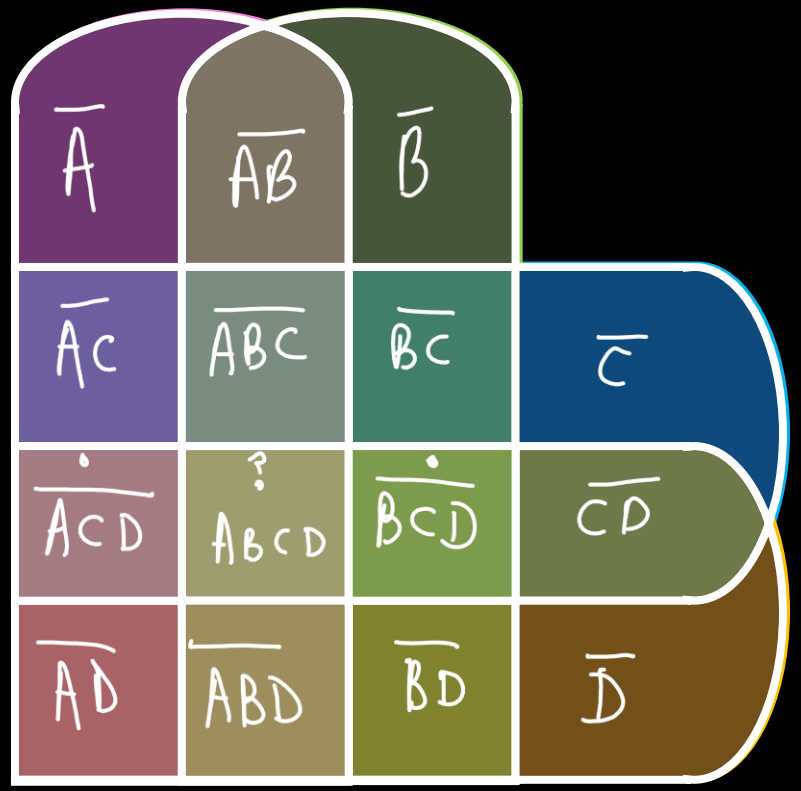
$$u = \underbrace{n}_{0 \text{ sets}} + \underbrace{\bar{A} + \bar{B} + \bar{C}}_{\text{Exactly 1 set}} + \underbrace{\overline{A \cap B} + \overline{B \cap C} + \overline{A \cap C}}_{\text{Exactly 2 sets}} + \underbrace{A \cap B \cap C}_{\text{All three}}$$

4 Set VD


(A)
$\overline{A}$
$\overline{A \cap D}$
$\overline{A \cap B}$
$\overline{A \cap B}$
(D)
$\overline{D}$
$A \cap B \cap C \cap D$
$\overline{B}$
(B)
$\overline{C}$
(C)

4 Set VD




(A)
(B)
(C)
(D)
$\overline{A}$
$\overline{AB}$
$\overline{B}$
$\overline{AC}$
$\overline{ABC}$
$\overline{BC}$
$\overline{C}$
$\overline{ACD}$
$ABCD$
$\overline{BCD}$
$\overline{CD}$
$\overline{AD}$
$\overline{ABD}$
$\overline{BD}$
$\overline{D}$

4 Set VD

$U =$ ✓

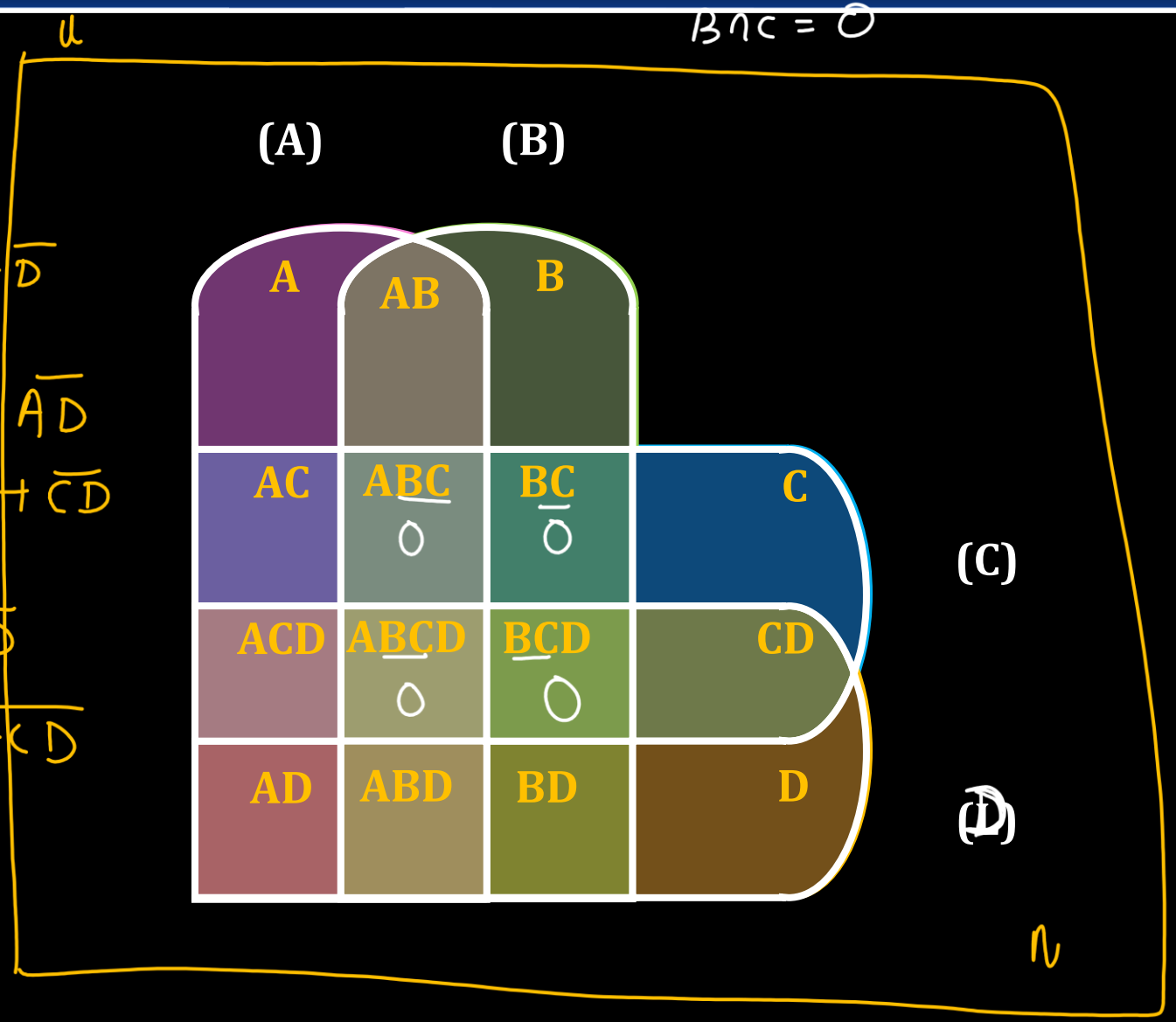
None $\longrightarrow \cap$

Ex. 1 $\longrightarrow \bar{A} + \bar{B} + \bar{C} + \bar{D}$

Ex. 2 $\longrightarrow \overline{AB} + \overline{AC} + \overline{AD} + \overline{BC} + \overline{BD} + \overline{CD}$

Ex. 3 $\longrightarrow \overline{ABC} + \overline{ABD} + \overline{BCD} + \overline{ACD}$

All 4 $\longrightarrow$ ABCD



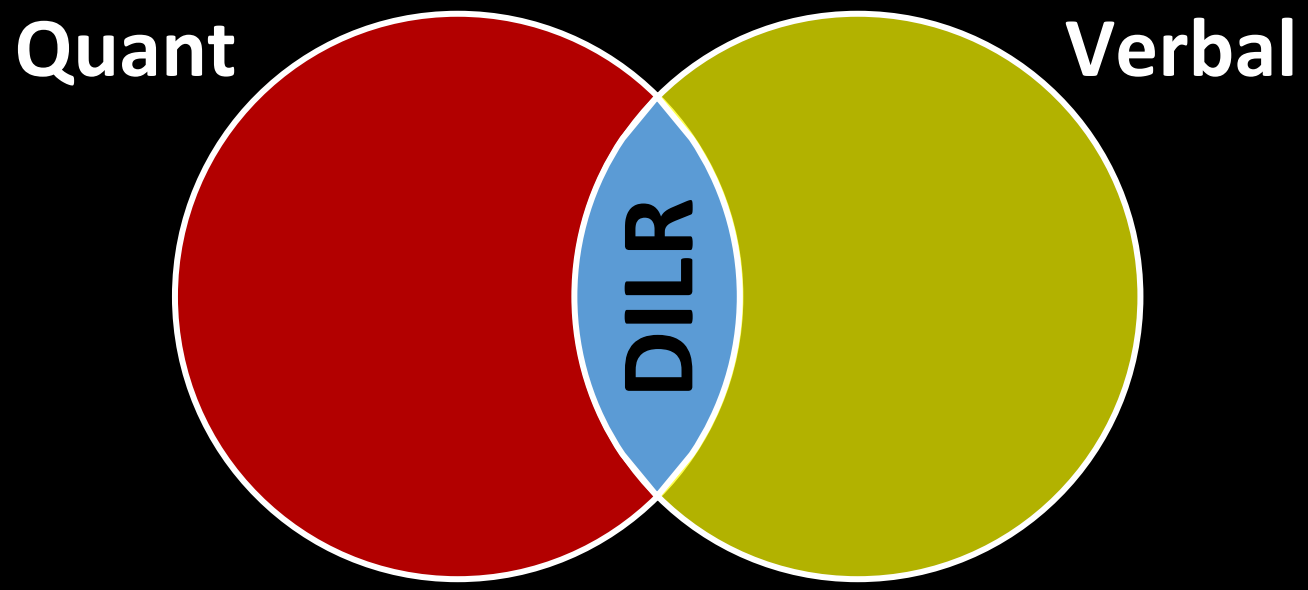
Missing Data

fill logic + clues

Teams	Wins	Losses	Draws	Points
A	_	0	-	8
B	-	2	-	6
C	-	2	-	5
D	-	1	-	5
E	-	1	-	-
F	-	-	-	-

Things To Remember

1. Read the instructions, clues & conditions thoroughly to avoid silly mistakes.
2. Make a habit of writing down important & relevant information.
3. HIDE the questions immediately after reading the instructions.
4. Never judge a set by its size/looks.



Things To Follow In Class

1. BE PATIENT!
2. Accuracy > Time
3. No “repeat”.
4. Don’t ask “Kya yeh CAT Level set hai? Kya CAT aisa set puchega? Important topics kya hai?”
5. Solve along with me.
6. Solve by yourself again after class.
7. Solve DPPs.
8. Practice is most important!

2 Mins Summary

1. Basics of DI

- Today's DPP
- Foundation videos on YT (Venn Diagrams)

Tom evening on YT. ← MBA Wallah

↑ 9 PM

Thank You