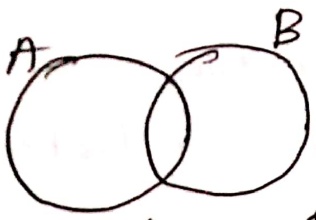
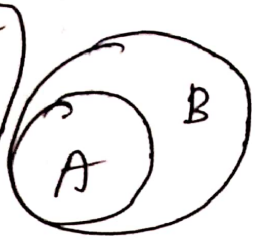
# SYLLOGISM

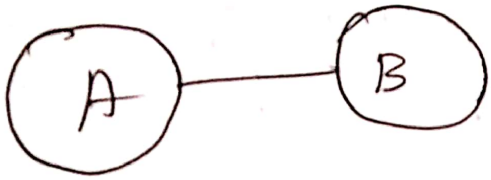
1) Statement Venn diagrams

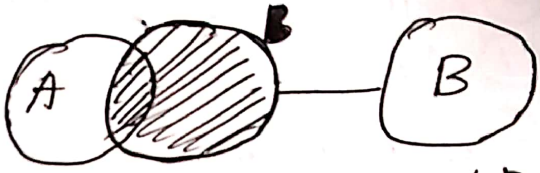



Some A are B
Some B are A




All A are B

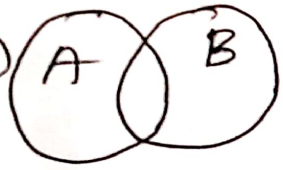


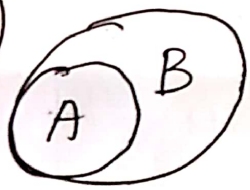

Some A are not B

These diagrams should be used only for drawing the statements

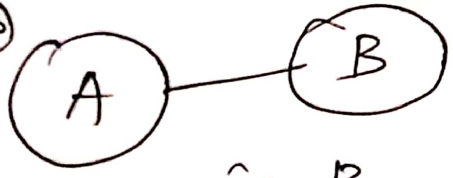
2) Conclusion checking Venn diagrams

① 


Some A are B
some B are A

② 


All A are B follows
some A are B follows
some B are A follows

③ 


No A is B
No B is A

1) In syllogism

| Two positive stmts | Two negative stmts |
|---|---|
| 1) Some A are B | 1) No A is B |
| 2) All A are B | 2) Some A are not B |

While checking conclusion after drawing Venn diagram,

For positive conclusion, just see the diagram & answer.

1) All A are B, exactly All A should be inside B only then it follows

2) Some A are B, if there is a relation between A and B, ~~then~~ in seeing diagram then it follows

For negative conclusion

After drawing possibility diagram, check such that is doesn't deviate the given statements

1) (No A is B)

Read like: Some one is claiming None of the A is B, so defend him by proving Atleast some A are B by drawing possibility diagram, if you could not prove some A are B, then No A is B → follows

Note: step1 If all statements given are positive, then negative conclusion never follows

step2: If step 1 is not viable, then think of possibility diagram

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## 2) Some A are not B

Read like: Some one is claiming that some A are definitely not B. so defend him by proving All A are B. if you prove them then Some A are not B is false, otherwise some A are not B is true.

Note: Step1 If all stmts are positive, negative conclusion never follows

Step2: If step 1 is not viable, then think of possibility diagram, draw without deviating the statements given.

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Important Hint:

For all +ve stmts } -ve conclusion never follows
(If all stmts are +ve)

If all stmts are -ve } +ve conclusion never follows

| Either ① (or) ② conclusion |
|---|

If the conclusion pair is of form

| | | |
|---|---|---|
| 1) | Some A are B | X |
| 2) | No A is B | X |

(or)

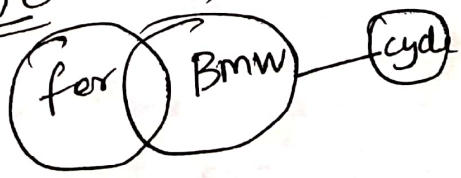
| | | |
|---|---|---|
| 1) | All A is B | X |
| 2) | some A are not B | X |

And if in a pair both conclusions doesn't follow then either ① or ② follows

Eg: Stmt: Some ferrari are BMW
No BMW is cycle

Concl: 1) Some ferrari is cycle X
2) No ferrari is cycle X

Basic




possibility diagram


either ① or ②

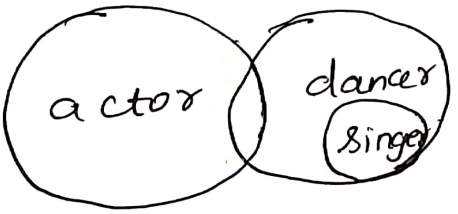
① Statement

1) Some actors are singers
2) All singers are dancers

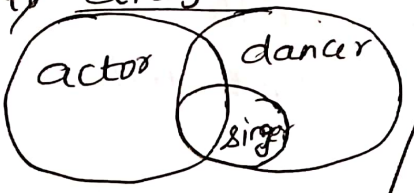
Conclusion

1) Some actors are dancers → follows (since there is relation b/w actor & dancer)
2) No singer is actor → does not follow

Basic diagram




Possibility diagram



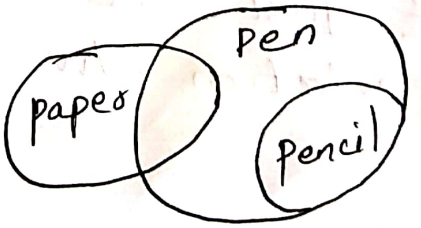

Note: i) possibility should be seen only for negative statement.

2) After drawing possibility diagram, We should check such that the diagram doesn't affect the stmts given

We should read like Some one is claiming None of the singer is actor, so, our motive is to prove him wrong by trying to answer atleast some singer are actor by drawing possibility, if proved then No condition is false

② Stmt:

1) Some paper are pen
2) All pencils are pens




Concl

1) Some pens are pencil
2) Some pens are paper

Both follows as there is a relation b/w said Variables

For positive conclusion, just see the Venn diagram and answer

③ Stmt:

1) All cabs are autos
2) All autos are buses

Conc:

1) No bus is a cab
2) No auto is a cab

Ans: Neither ① nor ②

Note: 1) For all positive Stmts Negative conclusion doesn't follow
2) For all negative stmts positive conclusion doesn't follow.

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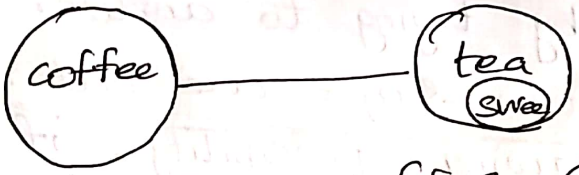
④ Stmt:

1) No coffee is a tea
2) All sweets are teas

Concl:

1) No coffee is a sweet — follows
2) Some coffee are sweets — Not follows



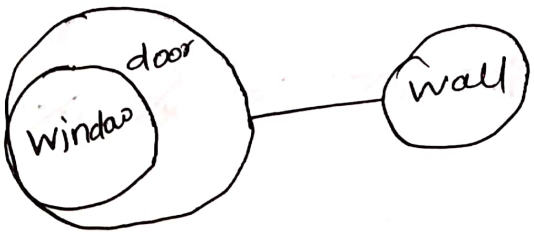

Explanation: Since coffee are tea are not relatable we cannot split sweet from tea and prove atleast some coffee are sweet so, conc. 1 follows

Conc 2: just see diagram and answer.
No relation b/w coffee and sweet so Notfollow

5) Stmt
1) All windows are doors
2) No door is a wall

Concl:
1) Some windows are walls — Not follows
2) No wall is a door — follows

Basic diagram




Just see the digram
Concl: 1 — No relation b/w wall & window so doesn't follow

Concl 2: We cannot prove atleast some wall is a door as there is no relation b/w wall door and we cannot/no possibility of bringing wall near door, so, concl 2 - follows

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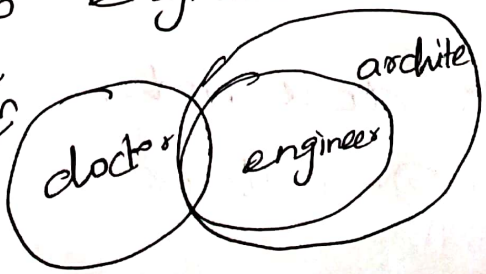
6) Stmt
1) Some doctors are engineers
2) All engineers are architects

concl:
1) Some doctors are architect — follows
2) No engineer is a doctor — does not follow

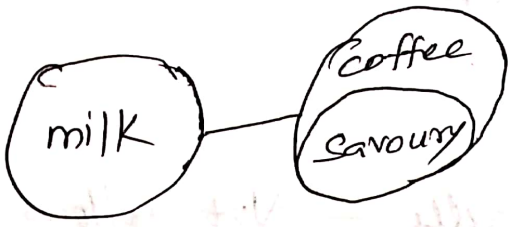
Basic digram




For all the stmts negative conclusion is false.

4) Stmt:

1)




Stmt:
1) No milk is coffee
2) All savouries are coffee

Conc ✓ 1) No milk is savoury

concl-2: No relation b/w milk and savoury so does not follow ✗ 2) Some milk are savoury

concl- There is no relation b/w milk and coffee, so we cannot take savoury out of coffee to prove atleast some savoury are milk or ~~take~~ bring milk inside savoury. so concl-2 follows

—— X ——

Note: Here conclusion is in the form 1) Some $\overset{A}{\text{milk}}$ are $\overset{B}{\text{savoury}}$ ✗

2) No $\overset{A}{\text{milk}}$ is $\overset{B}{\text{savoury}}$ ✓

This conclusion pair is of either 'or' form, same subject + predicate, but one is following and another is not following so, only conclusion ① follows.

suppose if both of these does not follow, then either ① or ② follows

8) Stmt

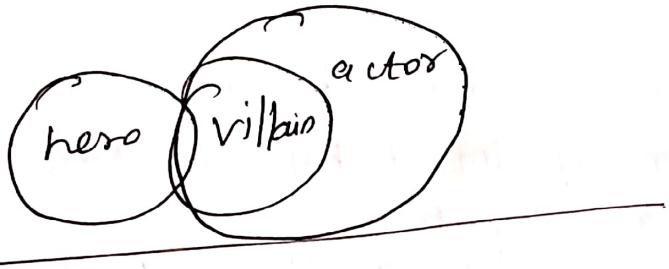
Some heroes are Villains

All Villains are actors

Concl

1) Some heroes are actors — follows

2) No Villain is a hero — does not follow



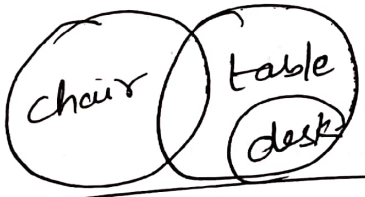

9) Stmt: Some chairs are tables

All desk are tables

Conc:

1) Some tables are desks — follow

2) Soree tables are chairs — follow



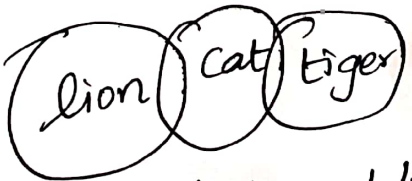

(10) Stmt: Some lions are cats

Some cats are tigers

conc: 1) Some lions are tigers — does not follow

2) No tiger is a cat — doesn't follow

Basic diagram



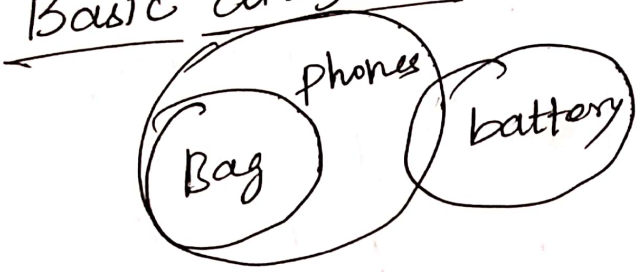

conc1: No relation b/w lion & tiger so false

concl2; there is already relation b/w cat + tiger so, this conclusion is false

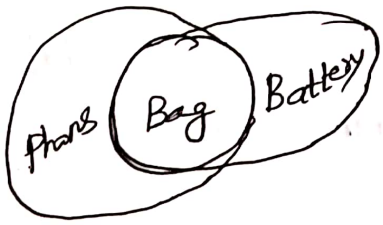
(11) Stmt All bags are phones
Some batteries are phones

Conc: 1) All phones are bags — X
2) All phones are batteries — X
3) Some bags are phones — ✓ (relation b/w bags & phone)
4) Some bags are not batteries — X

Basic diagram




possibility diagram




For the conclusion just see the diagram & answer

For conclusion 4 Some bags are not battery we should read like, some one is claiming some bags are definitely not batteries, so we should defend him by proving All bags are batteries, if we can prove then that conclusion is false. this can be done with possibility diagram. Note: 1) After drawing possibility diagram we should check such that it is not violating the statements given.
2) only for ve conclusion, possibility diagram is drawn.