Coded Inequalities

Inequality Tricks

Symbol	Meaning
>	Greater
<	Less
=	Equal
≥	Greater or equal
≤	Less or equal
≠	Not Equal / Either greater or less

RULES:

">" (more than) & "≥" (more than equal to) symbol explanation:

If the conclusion contains ">" (more than) symbol:

1. It will satisfies if, ">" (more than) symbol present in the statement between objects.
2. It will also follow "= (equal to)", "≥ (more than equal to)" symbols but "> (more than)" symbol must be present at least in statement between the objects as per the conclusion.

If the conclusion contains "≥" (more than equal to) symbol:

1. It will satisfies if, "≥" (more than equal to) symbol present in the statement between objects.
2. It will also follow "= (equal to)" symbol, but "≥ (more than equal to)" symbol must be present at least in statement between the objects as per the conclusion.

Note: if the statement contains "≥ (more than equal to)" symbol, and conclusion has "= (equal to)" & ">" (more than) symbol, in this case either option will come into existence.

Example:

Statement: P≥ Q≥ R ≥S = T > U ≥ W

Conclusion:

P>R	False
P>S	
P>T	
P>U	True
P>W	
P≥R	
P≥S	
P≥T	
P= T	
P = R	Either (P) or (R)
P> R	
P > S	Either (P) or (S)
P=S	

"<" (less than) & "≤" (less than equal to) symbol explanation:

If the conclusion contains "<" (less than) symbol:

1. It will satisfies if, "<" (less than) symbol present in the statement between objects.
2. It will also follow "= (equal to)", "≤ (less than equal to)" symbols but "< (less than)" symbol must be present at least in statement between the objects as per the conclusion.

If the conclusion contains "≤" (less than equal to) symbol:

1. It will satisfies if, "≤" (less than equal to) symbol present in the statement between objects.
2. It will also follow "= (equal to)" symbol, but "≤ (less than equal to)" symbol must be present at least in statement between the objects as per the conclusion.

Note: if the statement contains "≤ (less than equal to)" symbol, and conclusion has "= (equal to)" & "<" (less than) symbol, in this case either option will come into existence.

Example:

Statement: P≤ Q≤ R ≤S = T < U ≤ W

Conclusion:

P<R	False
P<S	
P<T	
P<U	True
P<W	
P≤R	
P≤S	
P≤T	
P= T	
P = R	Either (P) or (R)
P< R	
P < S	Either (P) or (S)
P=S	

Important Points:-

If opposite sign will be used between objects then answer will be false

If same precedence sign will be used between objects then answer will be true

Example 1:
Statement:
P < Q > R < S > T
Conclusion:

n) P < R
o) P < S
p) P < T
q) Q > T
r) Q > S
s) R > T

FALSE

Explanation: Sign used in statement as compared to conclusions are opposite, so the conclusion will be false.

Example 2:
Statement:
P ≥ Q ≤ R ≥ S ≤ T
Conclusion:

a) P ≥ R
b) P ≥ S
c) P ≥ T
d) Q ≤ T
e) Q ≤ S
f) R ≤ T

FALSE

Explanation: Sign used in statement as compared to conclusions are opposite, so the conclusion will be false.

Example 3:
Statement:
P ≤ Q ≤ R ≤ S ≤ T
Conclusion:

a) P ≤ R
b) P ≤ S
c) P ≤ T
d) Q ≤ T
e) Q ≤ S
f) R ≤ T

TRUE

Explanation: Sign used in statement as compared to conclusions are SAME, so the conclusion will be TRUE.

Steps for Solving Problems
Step I: Decode the given symbols like @, $, d, #, *, etc.
Step II: Take one conclusion at a time and make an idea that which statements are relevant for evaluating it.
Step III: Use conditions I and II to combine the relevant statements and derive a conclusion from it. They are:
Condition I: There must be a common term.
Condition II: The common term must be less than or equal to one term and greater than or equal to another.

Directions (1 – 3): In the following questions, the symbols %, @, #, $ and & are used with the following meaning as illustrated below:
'P%Q' means 'P is neither smaller than nor equal to Q'.
'P@Q' means 'P is neither greater than nor equal to Q'.
'P#Q' means 'P is not greater than Q'.
'P$Q' means 'P is not smaller than Q'.
'P&Q' means 'P is neither smaller than nor greater than Q'.
Now in each of the following questions, assuming the given statements to be true, find which of the four conclusions I, II, and III given below them is/are definitely true and give your answer accordingly.

1. Statements: Q%C, C$W, W&D, D@X
Conclusions: I. C%D II. W@Q III. X%W
A) Only I B) Only II C) Both II and III
D)All I, II and III E) Only I and II
Answer - Option C
Q > C ≥ W = D < X, so C ≥ D, Q> W and W < X

2. Statements: S&W, W#Q, Q%X, X$V
Conclusions: I. Q&S II. X%W III. V@Q
A) Only II B) Only I C) Only I and III
D) Only III E) None of these

Answer - Option D
S = W ≤ Q > X ≥ V, so S ≤ Q, no relation between X and W, Q> V

3. Statements: A@W, W$E, E#S, S&J
Conclusions: I. A$E II. J&W III. A@E
A) Either I or III B) Only I
C) Only II and III D) All I, II and III
E) either I or III and II

Answer- Option A
A < W ≥ E ≤ S = J, so no relation between W and J and no relation between E and A
In I and III we see subject predicate same and since no relation and I is A ≥ E and III is A < E so either or