

# Ordering & Ranking



~ Reasoning · SSC Exams ~

← circled = key tricks!



Ordering & Ranking questions place people/objects in a row, queue or class and test whether you can convert clues (rank from top, rank from bottom, taller/shorter, left/right) into exact positions. Master the **one core formula** below and most SSC questions fall in seconds.

## ① The Core Formula $\square\square\square$

**Total persons** = (Rank from top) + (Rank from bottom) - 1

**Rank from top** = Total - (Rank from bottom) + 1

**Rank from bottom** = Total - (Rank from top) + 1

### Worked example

Sneha ranks 15th from the top and 23rd from the bottom in her class. Find the total number of students.



**Step 1** — Total =  $15 + 23 - 1$ .

**Step 2** — =  $38 - 1$ .

**Answer** → **37** students.



This notebook covers every SSC ordering/ranking type: both-end ranks, persons-between, left/right & facing rows, shifting/interchanging, minimum persons, tallest/shortest chains, combining  $A > B > C \dots$  & inclusive-exclusive traps — each with a solved example.



Tip → “between” can be inclusive or exclusive — always re-read the exact wording before you start counting!

## ② Position When Both-End Ranks Are Given ↔

### Rule

If the **total is known**, either rank can be found from the other using the core formula rearranged. If the **total changes** (people join/leave), re-apply the formula — never guess.

### Worked example

In a row of **40 students**, Arjun is **18th from the left**. Find his rank from the right.



**Step** — Rank from right = Total - Rank from left + 1 =  $40 - 18 + 1$ .

**Answer** → **23rd** from the right. ✓

### Try this — when the total itself changes

Vikram is 8th from the top and 24th from the bottom (old total =  $8 + 24 - 1 = 31$ ). If **3 more students join at the bottom**, find his new rank from the bottom.

His rank from the top is unaffected (still 8th). New total =  $31 + 3 = 34$ .

New rank from bottom =  $34 - 8 + 1 = 27$ . ✓ (same as old rank-from-bottom 24 + 3 newcomers)



People joining/leaving at **ONE** end only shift ranks measured from **THAT** end — the rank from the untouched end stays exactly the same.

### ③ Persons Between Two People

#### Rule

**Same end:** Persons between =  $|\text{Rank1} - \text{Rank2}| - 1$ . **Opposite ends:** first convert one rank to the SAME end (using  $\text{Total} - \text{Rank} + 1$ ), then subtract as above.

#### Worked example – same end

In a queue of 30, Aman is 9th and Bina is 22nd from the front. How many are between them?



**Answer**  $\rightarrow 22 - 9 - 1 = 12$ . 

#### Worked example – opposite ends (convert first)

Row of 30: Kavya is 6th from the left, Ritu is 9th from the right. Persons between?

**Step 1** – Ritu's rank from left =  $30 - 9 + 1 = 22$ .

**Answer**  $\rightarrow |22 - 6| - 1 = 15$ . 

#### Try this

Class of 45: Neha is 5th from top, Puja is 11th from bottom. Persons between?

Puja's rank from top =  $45 - 11 + 1 = 35$ . Between =  $|35 - 5| - 1 = 29$ . 



"Between" excludes BOTH end persons – never add 1 back, and always convert both ranks to the same end first.

## ④ Left/Right in a Row & Facing Direction ↔

### Rule

Left ↔ Right ranks work exactly like Top ↔ Bottom ( $\text{Total} = \text{Left} + \text{Right} - 1$ ). **Trap:** when a row/person **turns around** or is described as **facing you** vs **facing away**, left and right REVERSE — recompute, don't reuse old numbers.

### Worked example

20 boys stand in a row facing **North**. Suresh is 8th from the left end. Find his position from the right end.

**Step** — Right rank =  $20 - 8 + 1 = 13\text{th}$ . ✓

### Try this — the facing-reversal trap

Same 20 boys now turn around to face **South**. What is Suresh's new position from the left end (he was 8th from left / 13th from right facing North)?



Turning around swaps left ↔ right, so his new left-rank = his OLD right-rank.

**Answer** → **13th** from the left (facing South). ✓



Whenever a row/person “turns around” or “faces you,” left and right REVERSE — always redraw before recomputing.

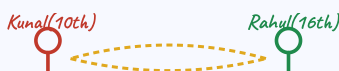
## ⑤ Shifting & Interchanging Positions $\rightleftarrows$

### Rule

**Interchange:** two people simply swap ranks; everyone else is unaffected. **Shift by  $k$  places:** new rank = old rank  $\pm k$ , sign depends on which end you're moving toward.

### Worked example – interchange

Row of 25: Kunal is 10th from left, Rahul is 16th from left. They interchange positions. New rank of Kunal from left?



**Answer**  $\rightarrow$  Kunal now sits where Rahul was: **16th** from left.

### Worked example – shift

Priya is 12th from left in a row of 30. She moves 4 places toward the right end. Find her new rank from left & from right.

New rank from left =  $12+4 = 16$ . New rank from right =  $30-16+1 = 15$ .

### Try this

Ramesh is 7th from the right in a queue of 24. He moves 5 places toward the left end. New rank from the right?

Moving toward the left end **INCREASES** his distance from the right  $\rightarrow 7+5 = 12$ .



"Moves toward left" raises the rank-from-right number (and lowers rank-from-left) – visualise the row before you calculate.

## ⑥ Minimum Number of Persons (Overlap Trick)

### Rule

When two people's ranks are given from OPPOSITE ends and their order (who is left of whom) is known but the total is NOT, the row is **shortest** when they sit as close together as possible.

**Minimum persons** = (rank from one end) + (rank from the other end) - 1 [+ any stated "at least X between"]

### Worked example

Manoj is 11th from the left end, Suresh is 16th from the right end, and Manoj is to the left of Suresh. Minimum persons in the row?



**Step** — for minimum, place them right next to each other (nothing wasted).

**Answer** →  $11 + 16 - 1 = 26$ . 

### Try this — with a stated gap

Same Manoj & Suresh, but now at least **3 persons** must sit between them. Minimum total?

$11 + 16 - 1 + 3 = 29$ . 



"Minimum" problems assume the two people sit as close together as possible — never assume an extra gap unless the question states it.

## ⑦ Tallest / Shortest Ordering ||||

### Rule

Turn every clue into an inequality ( $>$  /  $<$ ), then chain them into ONE ordered line. Start from the clue that mentions the extreme ("tallest"/"shortest"), or find the name that links two chains together.

### Worked example

A is taller than B. C is taller than A. D is shorter than B but taller than E. Find the tallest & shortest.

**Step 1** —  $C > A > B$  (from clues 1&2).  $B > D > E$  (from clue 3).

**Step 2** — merge on the common name B:  $C > A > B > D > E$ .



**Answer** → Tallest = **C**, Shortest = **E**.

### Try this — finding a rank inside the chain

Using the order  $C > A > B > D > E$  (5 people), what is B's rank from the top and from the bottom?

B is 3rd from top; from bottom =  $5-3+1 =$  **3rd** too (exact middle).



Watch tie clues like "A is not shorter than B" (means  $A \geq B$ ) — they don't fully fix a strict order between A and B.

## ⑧ Combining $A > B > C \dots$ Into One Order $\leftarrow \leftarrow \leftarrow$

### Rule

Write every clue as an arrow ( $>$ ). Find the name shared by two separate chains and merge on it. The name that never appears on the “small” side of an arrow anchors the TOP; the one that never appears on the “big” side anchors the BOTTOM.

### Worked example – marks

P scored more than Q. R scored less than Q but more than S. T scored more than P (highest of all). Arrange in decreasing marks; find topper & lowest.

**Step 1** —  $P > Q$ ,  $Q > R > S$ ,  $T > P$ .

**Step 2** — merge:  $T > P > Q > R > S$ .

**Answer** → Topper = **T**, Lowest = **S**. 

### Worked example – weight

X is heavier than Y. Z is heavier than X. W is lighter than Y but heavier than V. Heaviest & 2nd-lightest?

Chain:  $Z > X > Y > W > V$  → Heaviest = **Z**, 2nd-lightest = **W**. 

### Try this – age

M is older than N. O is younger than N. P is older than M. Q is younger than O. Who is youngest?

Chain:  $P > M > N > O > Q$  → Youngest = **Q**. 



Draw arrows ( $>$ ) linking names as you read each clue – a full chain usually emerges after just 2–3 clues.



## ⑨ Traps – Inclusive vs Exclusive Counting ⚠

“Between” → EXCLUDES both end persons: subtract 1 extra.

“From X to Y” (inclusive) → add 1:  $\text{count} = Y - X + 1$ .

“Immediately” left/right → means exactly adjacent ( $\pm 1$  place), NOT “somewhere” on that side.

Joiners/leavers shift ranks only from the AFFECTED end — the other end's ranks stay put.

### Worked example – exclusive vs inclusive

In a row of 20 (from the left), how many students stand **between** the 4th and 16th positions?

**Answer** →  $16 - 4 - 1 = 11$ . ✓ (common mistake: forgetting to subtract 1 → wrongly getting 12)

Now: how many students occupy positions **from the 4th to the 16th, both included?**

**Answer** →  $16 - 4 + 1 = 13$ . ✓ (a different question, a different formula!)

### Try this – the “immediately” trap

A is immediately to the right of B. B is 3rd from the left in a row of 10. Find A's rank from left & from right.

$A = B\text{'s rank} + 1 = 4\text{th from left; from right} = 10 - 4 + 1 = 7\text{th}$ . ✓



Read the exact wording every single time — “between”, “from...to”, and “immediately” each demand a DIFFERENT calculation.

# How to Attack ANY Ordering & Ranking Q

- 1 → Note the **total** (or find it via  $\text{Top} + \text{Bottom} - 1$  if not given directly).
- 2 → Convert every clue to ranks from **ONE fixed end** before comparing — watch for “turns around” reversing left/right.
- 3 → For “between” questions, subtract 1 (exclusive) unless it says “from...to” (inclusive).
- 4 → For height/marks/age clues, draw  $>/<$  arrows and merge every clue into **ONE** chain.
- 5 → For shifting/interchanging, redraw the row after the move before finding new ranks.



Common traps → forgetting the  $-1$  in “between”; missing a facing/turn-around reversal; assuming an extra gap in “minimum” questions; and treating tie-clues as strict order.

## Quick Pattern Gallery – one-glance revision

**Total:**  $\text{Top} + \text{Bottom} - 1$

**Between (same end):**  $|R1 - R2| - 1$

**Minimum persons:**  $x + y - 1$  (+given between)

**Interchange:** swap only their 2 ranks

**Tallest/shortest:** build  $>/<$  chain

**Inclusive count:**  $(\text{end} - \text{start} + 1)$

**Other end:**  $\text{Total} - \text{Rank} + 1$

**Between (opp. ends):** convert, then subtract

**Shift toward an end:**  $\text{rank} \pm k$

**Facing reversal:** left  $\leftrightarrow$  right swap

**n-th from top:**  $(\text{Total} - n + 1)$ th from bottom

**Exclusive “between”:**  $(\text{end} - \text{start} - 1)$

## Exercise – Ordering & Ranking

Real SSC CGL / CHSL style questions — solve, then check the Answer Key on the next page.

**Q1.** Meera ranks 12th from top & 25th from bottom.

Total students?

(1) 35 (2) 36 (3) 37 (4) 38

**Q3.** Queue of 30; Aditi 6th, Bhavna 21st from front.

Between them?

(1) 13 (2) 14 (3) 15 (4) 16

**Q5.** 20 boys face North; Sameer 9th from left. They face South — new rank from left?

(1) 9 (2) 11 (3) 12 (4) 13

**Q7.** Row of 22; Vikas 5th, Rakesh 18th (left). They interchange. Vikas's new rank?

(1) 5 (2) 18 (3) 17 (4) 4

**Q9.**  $P > Q$  (taller);  $R > P$ ;  $S < Q$  but  $S > T$ . Who is shortest?

(1) Q (2) S (3) T (4) P

**Q11.** Row of 25; students between 5th & 19th position (left)?

(1) 12 (2) 13 (3) 14 (4) 15

**Q2.** Row of 42; Farhan is 17th from left. Rank from right?

(1) 25 (2) 26 (3) 24 (4) 27

**Q4.** Row of 35; Kavya 8th (left), Rohit 10th (right). Between them?

(1) 16 (2) 17 (3) 18 (4) 19

**Q6.** Neha 14th from right in row of 26, moves 6 places left. New rank from right?

(1) 8 (2) 20 (3) 18 (4) 22

**Q8.** Suresh 9th(left), Mahesh 12th(right), Suresh left of Mahesh. Minimum persons?

(1) 19 (2) 20 (3) 21 (4) 22

**Q10.** Using Q9's order  $R > P > Q > S > T$ , Q's rank from top?

(1) 2nd (2) 3rd (3) 4th (4) 1st

**Q12.** Students from 5th to 19th position, both included?

(1) 13 (2) 14 (3) 15 (4) 16



Solve every question on paper first — sketch the row/chain — then flip the page to check.



## Answer Key

Q1 → 36 —  $12+25-1 = 36$ . Core formula.

Q2 → 26 —  $42-17+1 = 26$ .

Q3 → 14 —  $21-6-1 = 14$  (same end).

Q4 → 17 — Rohit's rank from left =  $35-10+1=26$ ; between =  $26-8-1 = 17$ .

Q5 → 12 — turning around swaps ends: new left rank = old right rank =  $20-9+1 = 12$ .

Q6 → 20 — moving toward left raises rank-from-right:  $14+6 = 20$ .

Q7 → 18 — interchange → Vikas takes Rakesh's old spot, 18th.

Q8 → 20 — minimum =  $9+12-1 = 20$ .

Q9 → T — chain  $R>P>Q>S>T \rightarrow$  shortest = T.

Q10 → 3rd — order R,P,Q,S,T → Q is 3rd from top.

Q11 → 13 —  $19-5-1 = 13$  (exclusive "between").

Q12 → 15 —  $19-5+1 = 15$  (inclusive "from...to").

### Score yourself

10–12 correct → **excellent**, ordering & ranking is your strength! 6–9 → **good**, revisit pages 2–9.

Below 6 → **redo** the "How to Attack" steps on page 10 slowly.

☆ Rank it right, crack every row! ☆

@prepyodha · prepyodha.in