

Set B - Real World Example Questions

- Q1.** A social media feed reuses the same rendering logic for multiple post types.
- Q2.** A school management system divides modules into student, staff, and admin sections.
- Q3.** A city map shows landmarks and roads but hides minor alleys.
- Q4.** A maze-solving algorithm explores one full path before trying another.
- Q5.** A graph search avoids exploring branches that exceed the current best solution.
- Q6.** A system postpones recalculating interest until the user views account summary.
- Q7.** A stock trading app computes highest 7-day moving average for a stock.
- Q8.** A social network displays users level-wise from a source friend.
- Q9.** A family tree showing grandparents, parents, and children relationships.
- Q10.** A GPS system updates distance to a destination when a shorter path is detected.
- Q11.** An AVL tree rotates nodes to remain balanced after insertion.
- Q12.** A regular expression 'b*' matches all sequences of repeated 'b'.
- Q13.** A gaming server precomputes map coordinates for fast load times.
- Q14.** A priority queue ensures top element always has maximum value.
- Q15.** QuickSort divides data around a pivot element for efficient sorting.

- Q16.** A bitmask operation is used to check if a number is odd or even.
- Q17.** A recursive factorial function stores computed values for reuse.
- Q18.** In bubble sort, after each iteration, the largest element reaches its correct position.
- Q19.** A network routing algorithm builds shortest paths from a source router.
- Q20.** A search engine splits query terms into prefix and suffix for matching.
- Q21.** A software firm divides app features into modules for easier debugging.
- Q22.** An e-commerce engine identifies repeated customer patterns to suggest items.
- Q23.** A 3D modeling app hides internal structures and only shows outer layers.
- Q24.** A robot vacuums every room level by level.
- Q25.** A chess AI prunes moves that lead to guaranteed losses.
- Q26.** A server updates usage data only when analytics dashboard is opened.
- Q27.** A health tracker calculates rolling 5-minute average heart rates.
- Q28.** An organizational structure visualizes reporting levels from CEO to staff.
- Q29.** An AI planner adjusts route weights when new faster routes appear.
- Q30.** A database auto-balances its B-Tree after inserting new records.