

JAB TAK CAMPUS
PHODENGE NII TB TAK
CHORENGE NII

NOTE THIS :-

1. CORE SUBJECTS
 - OOPS
 - DBMS
 - OS
 - TOPICS(OSI LAYER, SDLC)
2. CODING QUESTIONS
 - STANDARD QUES FIRST
3. DELIVERY

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OOPS

1. CLASSES AND OBJECTS
2. FEATURES OF OOPS
3. TYPES OF POLYMORPHISM , INHERITANCE
4. MODES OF INHERITANCE
5. STATIC VARIABLE IN CLASSES
6. VIRTUAL FUNCTIONS/CLASS
7. ABSTRACT CLASS AND INTERFACE
8. FRIEND FUNCTION
9. CALL BY VALUE/REFERENCE
10. CONSTRUCTOR AND DESTRUCTOR
11. COPY CONSTRUCTOR
12. REFERENCE VS POINTER
13. FUNCTION OVERLOADING/OVERRIDING

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OOPS

- 14. TYPE CONVERSIONS
- 15. TEMPLATE (LESS IMP)
- 16. DEFAULT PARAMETER
- 17. INLINE FUNCTIONS & MACROS
- 18. THIS POINTER
- 19. EXCEPTION HANDLING
- 20. -----→ QUICK RECALL ←-----

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DBMS

1. DBMS INTRO
2. SQL COMMANDS AND TYPES
3. AGGREGATE FUNCTION
4. KEYS IN DBMS
5. NORMALISATION AND TYPES
6. CONSTRAINTS IN SQL
7. VIEW
8. JOINS
9. SQL QUERY FOR NTH HIGHEST SALARY
10. DELETE VS DROP VS TRUNCATE
11. WHERE VS HAVING
12. GROUP BY VS ORDER BY
13. CHAR VS VARCHAR
14. UNION VS JOIN

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DBMS

15. IN VS EXIST
16. CREATE COPY OF TABLE
17. PATTERN MATCHING
18. CHARACTER MANIPULATION FUNCTIONS
19. BASIC SQL PRACTICE
20. -----→ QUICK RECALL ←-----

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OS

1. PROCESS VS THREAD
2. SCHEDULING ALGORITHM
3. MULTIPROGRAMMING VS MULTITASKING
4. MEMORY ALLOCATION TYPES
5. INTERNAL,EXTERNAL FRAGMENTATION
6. MEMORY ALLOCATION TECHNIQUES
7. VIRTUAL MEMORY
8. PAGE REPLACEMENT ALGO
9. DEADLOCK
10. RACE AROUND CONDITION
11. THRASHING
12. PAGE FAULT
13. PAGING VS SEGMENTATION
14. -----→ QUICK RECALL ←-----

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SDLC
OSI LAYER

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DSA

1. BINARY TREE
2. BINARY SEARCH TREE
3. LINKED LIST
4. GRAPH
5. ARRAY
6. STRING
7. BIT MANIPULATION
8. DP
9. GREEDY
10. MATRIX
11. STACK AND QUEUES
12. RECURSION
13. BACKTRACKING

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BINARY TREE

1. LEVEL ORDER TRAVERSAL
2. HEIGHT OF A TREE
3. DIAMETER OF A TREE
4. MIRROR OF A TREE
5. INORDER/PREORDER/POSTORDER
6. LEFT/RIGHT/TOP/BOTTOM VIEW
7. TREE IF HEIGHT BALANCED OR NOT
8. BOUNDARY TRAVERSAL
9. DUPLICATE SUBTREE
10. ZIG ZAG TRAVERSAL
11. FLATTEN BINARY TREE
12. LARGEST SUBTREE SUM
13. DIAGONAL TRAVERSAL
14. MAXIMUM SUM PATH(L TO L AND ANY TO ANY.
15. BUILD TREE FROM PREORDER & POSTORDER

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BST

1. MAX AND MIN IN A BST
2. INORDER SUCCESSOR/PREDECESSOR
3. CHECK IF TREE IS BST OR NOT
4. POPULATE INORDER SUCCESSOR OF ALL NODES
5. LCA OF 2 NODES
6. CONSTRUCT FROM PREORDER & POSTORDER
7. CONVERT BINARY TREE INTO BST
8. MERGE TWO BST
9. SERIALISE DESERIALISE
10. FLATTEN BST
11. LARGEST BST IN BINARY TREE
12. COUNT NODES LIE IN RANGE
13. FIND KTH LARGEST/SMALLEST
14. NEXT POINTER WITH SAMELEVELNEXT NODE
(NOTPERFECTBST,PERFECTBST)

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LINKED LIST

1. ADD/REMOVE A NODE IN LL
2. REVERSE A LL
3. MIDDLE ELEMENT IN LL
4. MERGE LL
5. SEGREGATE EVEN/ODD
6. ADD TWO LL
7. CLONE A LL
8. FOLD A LL
9. ROTATE IN A GROUP OF K
10. CYCLE DETECTION & REMOVAL

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GRAPH

1. CONSTRUCT GRAPH
2. IF PATH ? / PRINT PATHS
3. TOPOLOGICAL SORT
4. CYCLE DETECTION
5. BFS
6. DFS
7. CONNECTED GRAPH
8. NUMBER OF ISLANDS
9. BIPARTITE GRAPH
10. PRIMS
11. KRUSKALS
12. BRIDGES
13. BELLMAN FORD
14. KOSARAJU ALGO

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STACK AND QUEUES

1. IMPLEMENT QUEUE USING STACK
2. IMPLEMENT STACK USING QUEUE
3. MIN STACK 1&2
4. SMALLEST NUMBER FOLLOWING PATTERN
5. MERGE OVERLAPPING INTERVALS
6. CELEBRITY PROBLEM
7. PREFIX,POSTFIX,INFIX EVALUATE & CONVERT
8. SLIDING WINDOW MAXIMUM
9. STOCK SPAN
10. LARGEST AREA OF HISTOGRAM
11. NSL,NSR,NGL,NGR
12. BALANCED PARENTHESIS
13. DUPLICATE BRACKETS
14. RAIN WATER TRAPPING

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BIT MASKING

1. COUNT SET BITS
2. FIND TWO NON REPEATING
3. POWER OF 2 ?
4. FIND POSITION OF SET BITS
5. COPY SET BITS IN RANGE
6. CALCULATE SQUARES
7. POWER SET
8. BITS FLIP $A \rightarrow B$

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STRING

1. REVERSE WORD , PALINDROME ? , IF ROTATION ?
2. LONGEST RECURRING SUBSEQUENCE
3. PRINT ALL SUBSEQUENCES
4. PERMUTATION OF A STRING
5. SPLIT BINARY STRING INTO TWO SUBSTRING WITH EQUAL 0S AND 1S
6. FIND NEXT GREATER
7. RABIN KARP , KMP
8. SENTENCE → MOBILE KEYPAD
9. MINIMUM BRACKETS REVERSAL/SWAPS FOR BRACKET BALANCING
10. ROMAN TO DECIMAL & VICE VERSA
11. REMOVE ALL ADJACENT DUPLICATES
12. VALID IP ADDRESS
13. SMALLEST WINDOW WITH ALL CHARACTERS

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STRING

- 14. LONGEST REPEATING SUBSEQUENCE
- 15. LONGEST CONSECUTIVE SUBSEQUENCE
- 16. LONGEST PALINDROMIC SUBSTRING
- 17. COUNT PALINDROMIC SUBSEQUENCE
- 18. LONGEST INCREASING SUBSEQUENCE

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DP

1. CLIMB STAIRS (MIN MOVES, WAYS)
2. MIN COST PATH
3. GOLD MINE
4. COIN CHANGE (COMB+PERM)
5. COUNT BINARY STRING
6. DECODE WAYS
7. COUNT SUBSET OF FORM $A^I + B^J + C^K$
8. MAX SUM NON ADJACENT ELEMENT
9. PAINT HOUSE 1 & 2
10. PAINT FENCE
11. FRIENDS PAIRING
12. PARTITION INTO SUBSETS
13. BUY AND SELL (6 VARIATION)
14. KNAPSACK AND VARIATION
15. LCS AND VARIATION
16. MCM AND VARIATION

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DP

17. NCR ABD NPR
18. EDIT DISTANCE
19. MAXIMISE THE CUT SEGMENT
20. EGG DROPPING
21. COUNT DEARRANGEMENT
22. MOBILE NUMERIC PROBLEM

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BINARY SEARCH

1. SQUARE ROOT
2. FIRST AND LAST OCCURANCE OF ELEMENT
3. COUNT OF AN ELEMENT IN SORTED ARRAY
4. NUMBER OF TIMES A SORTED ARRAY IS ROTATED
5. SEARCH ELEMENT IN A NEARLY SORTED ARRAY
6. FLOOR & CEIL
7. FIND POS OF ELEMENT IN INFINITE SORTED ARRAY
8. ALLOCATE MINIMUM NUMBER OF PAGES
9. SEARCH IN ROW WISE AND COLUMN WISE SORTED ARRAY
10. SEARCH AN ELEMENT IN BITONIC ARRAY
11. PEAK ELEMENT
12. FIND MAX ELEMENT IN BITONIC ARRAY

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RECURSION

1. JOSEPHUS PROBLEM
2. PRINT N BIT BINARY NUMBERS HAVING MORE 1S THAN 0S
3. GENERATE ALL BALANCED PARENTHESIS
4. SUBSETS
5. PERMUTATION WITH SPACES
6. TOWER OF HANOI
7. REVERSE STACK

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ARRAY

1. KADANES ALGO
2. 2 SUM , 3 SUM, 4 SUM
3. JUMP GAME
4. BUY AND SELL STOCKS (6 VARIATION)
5. SORTING
6. SEARCHING
7. QUICK SELECT
8. REARRANGE THE ARRAY IN ALTER +VE, -VE
9. FACTORIAL OF A LARGE NUMBER
10. FIRST MISSING INTEGER
11. MAJORITY ELEMENT
12. NEXT PERMUTATION

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MATRIX

1. SPIRAL FORM
2. DIAGONAL FORM
3. SEARCH IN ROW WISE & COLUMN WISE SORTED MATRIX
4. ROTATE MATRIX
5. MAXIMUM SIZE RECTANGLE
6. FIND ROW WITH MAXIMUM NUMBER OF 1S
7. MEDIAN
8. SET MATRIX ZEROES
9. PASCAL TRIANGLE

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GREEDY

1. ACTIVITY SELECTION PROBLEM
2. JOB SEQUENCING PROBLEM
3. CHOCOLATE DISTRIBUTION PROBLEM
4. LRU CACHE
5. FRACTIONAL KNAPSACK PROBLEM
6. MINIMUM NUMBER OF COINS
7. MINIMUM PLATFORM PROBLEM
8. MAXIMUM MEETING IN ONE ROOMS
9. MINIMUM COST OF ROPES
10. REARRANGE CHARACTERS IN A STRING SUCH THAT NO TWO ADJACENT ARE SAME.

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BACKTRACKING

1. RAT IN A MAZE
2. N QUEEN PROBLEM
3. WORD BREAK
4. REMOVE INVALID PARENTHESIS
5. M COLORING PROBLEM
6. KNIGHT'S TOUR
7. COMBINATIONAL SUM
8. FLOOD FILL
9. SOLVE SUDOKU
10. COIN CHANGE PROBLEM
11. SNAKE LADDER

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PROJECT KEEP REVISING INTERVIEW EXP. MOCK INTERVIEWS

AB PHODNE KE LIYE READY HO
JAO....

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