Data Structures and Algorithms in Python

Index

1. Recursion – 1
2. Introduction to Recursion ….video
3. Recursion and PMI ….video
4. Problem Solving through Recursion ….video
5. Power Of a Number ….question
6. Predict the output ….mcq
7. Print first N natural numbers ….video
8. Predict the output ….mcq
9. Fibonacci Number ….video
10. Predict The Output ….mcq
11. Python And Recursion ….video
12. Check if the list is Sorted or not ? -1 ….video
13. Sum Of Array ….question
14. Check number in Array ….question
15. First Index of Number .…video
16. First Index of Number – Question ….question
17. First Index of Number – Code ….video
18. Last Index of Number ….video
19. Last Index of Number – Question ….question
20. Last Index of Number – Code ….video
21. Recursion – 2
22. Recursion With Strings ….video
23. Remove X ….question
24. Replace Pi ….video
25. Remove Duplicates Recursively ….question
26. Binary Search Using Recursion ….video
27. Merge Sort ….video
28. Merge Sort Code ….question
29. Merge Sort Code ….video
30. Quick Sort ….video
31. Quick Sort Code ….question
32. Quick Sort Code Video ….video
33. Tower of Hanoi ….video
34. Tower Of Hanoi – Problem ….question
35. Tower Of Hanoi – Code ….video
36. Recursion Assignment
37. Geometric Sum ..All are questions
38. Check Palindrome(recursive)
39. Sum of digits(recursive)
40. Multiplication(recursive)
41. Count Zeros
42. String to Integer
43. Pair Star
44. Check AB
45. Staircase
46. OOPS – 1
47. Intro to OOPs ….video
48. Classes and Objects ….video
49. Operator Used ….mcq
50. Instance Attributes ….video
51. Predict the output //mcq
52. Predict the output
53. Predict the output
54. Predict the output mcq//
55. Init Method ….video
56. Predict the output //mcq
57. Predict the output
58. Predict the output
59. Predict the output
60. Predict the output
61. Predict the output mcq//
62. Instance Methods //video
63. Function Class 1
64. Function Class 2
65. Function Class 3
66. Complex Number class video//
67. Complex Number ////question

1. OOPS – 1 locked
2. OOPS – 2
3. Inheritance ….video
4. Basics of Inheritance ….video
5. Predict the output …mcq
6. Predict the output …mcq
7. Inheritance and Private Members ….video
8. Predict the output ….mcq
9. Inheritance – Continue ….video
10. Polymorphism ….video
11. Predict the output ….mcq
12. Predict the output ….mcq
13. Protected Members ….video
14. Object Class ….video
15. Predict the output ….mcq
16. Multiple Inheritance ….video
17. Predict the output ….mcq
18. Method Resolution Order ….video
19. MOR ….mcq
20. Operator Overloading ….video
21. OOPS – 3
22. Abstract Classes …..video
23. Abstract Classes – Code ….video
24. Predict the output ….mcq
25. Predict the output ….mcq
26. Predict the output ….mcq
27. Abstract Classes – Continue ….video
28. Predict the output ….mcq
29. Predict the output ….mcq
30. Errors and Exceptions …..video
31. Intro to Exception Handling ….video
32. Predict the output ….mcq
33. Predict the output ….mcq
34. Predict the output ….mcq
35. Handling Multiple Exceptions ….video
36. Predict the output .…mcq
37. Custom Exceptions ….video
38. Predict the output ….mcq
39. Except Functionality ….video
40. Predict the output ….mcq
41. Else and Finally ….video
42. Predict the output //mcq
43. Predict the output ….video
44. Predict the output mcq//
45. More About Finally ….video
46. Time Complexity Analysis
47. What is Complexity Analysis? ….video
48. Efficiency of Algorithm ….mcq
49. Experimental Analysis ….video
50. Theoretical Analysis …video
51. Theoretical Analysis …. mcq
52. Big O Notation – Iterative Linear ….video
53. Time Complexity ….mcq
54. Linear Search Time Complexity ….mcq
55. Theoretical Analysis – Iterative Non Linear ….video
56. Insertion Sort Time Complexity ….mcq
57. Selection Sort ….mcq
58. Time Complexity of Code ….mcq
59. Time Complexity of Code ….mcq
60. Time Complexity of Code ….mcq
61. Theoretical Analysis – Recursive ….video
62. Recursive Time Complexity ….mcq
63. Recursive Time Complexity ….mcq
64. Theoretical Analysis – Binary Search ….video
65. Recurrence for Merge Sort ….mcq
66. Operations for Merging ….mcq
67. Merge Sort Time Complexity ….mcq
68. Merge Sort Time Complexity ….video
69. Fibonacci Time Complexity ….mcq
70. Fibonacci Time Complexity Analysis ….video
71. Space Complexity Analysis
72. Space Complexity ….video
73. More Examples of Space Complexity ….video
74. Space Complexity Analysis ….mcq
75. Merge Sort Space Complexity ….mcq
76. Merge Sort Space Complexity Analysis ….video
77. Fibonacci Space Complexity ….mcq
78. Analysis of Quick Sort ….video
79. Time Complexity Improvement
80. Power Intro ….video
81. Power of a Number ….question
82. Power Solution ….video
83. Array intersection intro ….video
84. Array intersection ….question
85. Array intersection Optimal Solution ….video
86. Equilibrium Index Intro ….video
87. Array Equilibrium Index ….question
88. Equilibrium Index Optimal Solution ….video
89. Linked List -1
90. Intro to Linked List
91. Linked List Node
92. Predict the output
93. Predict the output
94. Linked List Input – 1
95. Print Linked List
96. Time Complexity of Taking Input
97. Linked List Input – 2
98. Predict the output
99. Length of LL
100. Print ith node
101. Insert at ith Position – Iteratively
102. Insert at ith Position code – Iteratively
103. Delete Node
104. Length of LL(recursive)
105. Insert at ith Position – Recursively
106. Insert at ith Position Recursively(Code)
107. Complexity of Insertion
108. Delete Node (recursive)
109. Search in LL
110. Add element at last
111. Insert at 2nd position
112. Operations in O(1)
113. Operations in O(1)
114. Linked List – 2
115. Reverse LL – 1
116. Reverse LL (Recursive)
117. Reverse LL – 1 Code
118. Time Complexity of Reverse LL
119. Reverse LL – 2
120. Reverse LL – 2 Code
121. Reverse LL – 3
122. Reverse LL (Iterative)
123. Reverse LL – Iteratively
124. Mid Point of Linked List
125. Midpoint of Linked List
126. Merge Two Sorted LL
127. Code: Merge two sorted LL
128. Merge Sort – LL
129. Code : Merge Sort
130. Variations of Linked List
131. Circular Doubly LL
132. Traversal in LL
133. Double LL
134. Circular LL
135. Stacks
136. Intro To Stacks
137. Stack
138. Recursion Stack
139. Use Recursion
140. Stack Using Array – Explain
141. Stack Using Array – Code
142. Stack Using LL
143. Code: Stack Using LL
144. Stack using LL- Code
145. Stack Implementation
146. Inbuilt Stacks and Queues
147. Balanced Paranthesis – Explain
148. Balanced Paranthesis
149. Balanced Parenthesis – Code
150. Reverse Stack – Explain
151. Reverse Stack
152. Reverse Stack – Code
153. Queues
154. Intro to Queues
155. Queue
156. Correct order
157. Queue using Array – Explain
158. Queue using Array – Code
159. Queue using LL – Explain
160. Queue using LL
161. Queue using LL – Code
162. Insert Element
163. Worst Case
164. Inbuilt stacks and Queues
165. Queue using two stacks
166. Queue using two stacks – Code
167. Stack using 2 Queues
168. Binary Trees – 1
169. Introduction of Trees
170. Terminology of Trees
171. Binary Tree Node
172. How to create binary tree node
173. Print Binary Tree
174. Input of Binary Tree
175. Input Binary Tree
176. Number of nodes in Binary Tree
177. Sum of Nodes
178. Tree Traversals
179. Preorder Binary Tree
180. Postorder Binary Tree
181. Binary Tree Levelwise
182. Node with largest data
183. Nodes greater than X
184. Height of Tree
185. Height of tree
186. Height of Tree
187. Number of Leaf Nodes
188. Print nodes at depth K
189. Replace node with depth
190. Binary Trees – 2
191. Time complexity of Binary tree Probability
192. Remove Leaf Nodes
193. Mirror Binary Tree
194. Check if Binary tree is balanced?
195. Time complexity of Balanced Binary Tree
196. Check Balanced – Improve
197. Diameter of Binary Tree
198. Diameter of Binary Tree
199. Levelwise Input Binary Tree
200. Print Levelwise Input Binary Tree
201. Print Levelwise
202. Build tree using Preorder and postorder
203. Inorder Preorder Postorder
204. Construct tree using inorder and preorder
205. Build tree using inorder and preorder
206. Construct tree using Inorder and PostOrder
207. BST – 1
208. Intro to BST
209. IsBST?
210. Search Node in BST
211. Search in BST
212. Code : Search Node in BST
213. BST Time Complexity
214. Print Elements in Range k1 and k2
215. Elements between k2 and k2
216. Code : Print Elements in Range k1 and k2
217. Convert Sorted Array to BST
218. Construct BSt
219. Traversal in BSt
220. Check is BST?
221. Improved Solution for Check BST?
222. Another solution for check bst?
223. BST – 2
224. Root To Node Path In Binary Tree
225. Find path in BST
226. Structure of BST Class
227. BST Class Search & Print
228. BST Class
229. Insert in BST
230. Insertion In BST
231. Delete in BST
232. Delete in BST – Code
233. Insertion/Deletion in BST
234. Time complexity of BST Functions
235. Balanced BST
236. Generic Trees
237. Generic Tree
238. Generic Tree Node
239. Print Tree(Recursively)
240. Take Tree Input(Recursively)
241. Number of Nodes in Generic Tree
242. Sum of all nodes
243. Node with largest data
244. Height of Tree
245. Tree input Levelwise
246. Print Levelwise
247. Dictionaries/Maps
248. Dictionary Intro
249. Accessing/looping elements in dictionary
250. Predict the output
251. Predict the output
252. Predict the output
253. Adding or removing Data in Dictionary
254. Predict the output
255. Predict the output
256. Print all words with frequency K
257. Maximum Frequency
258. Pair sum to 0
259. How to make our own Hashmap?
260. What is Hashcode?
261. Collision Handling in Maps
262. Steps for implementing Hashmaps
263. How to insert in Map?
264. Search and Remove from Map
265. Two Rectifications
266. Time Complexity for Map Functions
267. Complexity Hashmap
268. Steps for Rehashing
269. Load Factor
270. Rehashing
271. Time Complexity
272. Priority Queues – 1
273. Intro To Priority Queues
274. Operations in Priority Queue
275. Ways to implement Priority Queue
276. Intro to CBT
277. Height of CBT
278. How to store CBT?
279. Heap order Property
280. How to insert in Heap?
281. Insertion in Max Heap?
282. Insertion in PQ-MaxHeap
283. Remove Elements from Heap
284. Re-Heap after Removal
285. Implementation of Priority Queue
286. Insert in Priority Queue(Code)
287. How to implement Remove minimum
288. Code : Remove Min
289. Remove Minimum from Priority Queue
290. Testing code of priority queue
291. Code : Max Priority Queue
292. Priority Queues -2
293. Heap Sort
294. Inplace Heap Sort – 1
295. Inplace Heap Sort Process
296. Inplace Heap Sort – 2
297. Inplace Heap Sort
298. Build Heap in O(n)
299. Inplace Heap Sort Code
300. Inbuilt Min Heap
301. Inbuilt Max Heap
302. K Smallest elements in List(Explain)
303. K smallest elements
304. K Smallest Elements in List(Code)
305. K Largest Elements
306. Huffman Coding //No Notes only Videos
307. Intro to Huffman Coding
308. Data Structures for Huffman Coding
309. Huffman Coding – Example
310. Decompression in Huffman Coding
311. Implementation of Huffman Coding
312. Making Frequency Dictionary
313. Constructing Heap
314. Constructing Binary Tree
315. Build Codes
316. Encoding Text
317. Padding Encoding Text
318. Convert Into Bytes
319. Compressing File
320. Decompressing Text
321. Remove Padding
322. Decoding Text
323. Final Code
324. DP – 1
325. Intro to Dynamic Programming
326. Fibonacci Memorization
327. Time Complexity of Memorization
328. Iterative Dynamic Programming
329. Why Iterative Solutions are better?
330. Minimum Steps to 1(Explain)
331. Min Steps to 1
332. Minimum Steps to 1(Code)
333. Min. Squares to Represent N(Explain)
334. Min. Squares to Represent N(Recursively)
335. Minimum number of squares
336. Min. Squares To Represent N(Memorization)
337. Min Squares Iterative Approach
338. Min. Squares to Represent N(Iteratively)
339. LIS – Explain
340. LIS – Recursive
341. Longest Increasing Subsequence
342. LIS – Memorization
343. LIS – Iteratively
344. DP – 2
345. Minimum Cost Path
346. Min Cost Path Problem
347. MinCost Recursively
348. MinCost Memorization
349. MinCost Iteratively
350. Bottom Up and Top Down Approach
351. Longest Common Subsequence
352. LCS – Problem
353. LCS(Recursive)
354. LCS(Memorization)
355. LCS(Iterative)
356. LCS Iterative Code
357. Knapsack Explain
358. 0 1 knapsack – Problem
359. Knapsack(Recursive Code)
360. Overlapping problems in knapsack
361. Knapsack Iterative
362. Matrix chain Multiplication
363. Matrix chain Multiplication
364. MCM – Subproblems
365. MCM – Memorization Solution
366. Recursion Assignment
367. Return All Subsequences Intro
368. Return Subsequences
369. Return All Subsequences Code
370. Return All Subsequences Dry Run
371. Return Keypad Combinations
372. Return Keypad
373. Return Keypad Combinations Solution
374. Print Output instead of Returning
375. Minimum of Array
376. Print All Subsequences
377. Print Subsequences
378. Print All Subsequences Solution
379. Print Keypad Combinations
380. Print Keypad
381. Print keypad Combinations Code
382. Backtracking
383. Intro TO Backtracking
384. Rat in a Maze
385. N-Queen Explain
386. N-Queens
387. N Queen Code
388. Sudoku Solver
389. Graphs – 1
390. Intro To Graphs
391. Terminology Behind Graphs
392. Complexity in terms of edges
393. How to implement Graphs
394. Implementation of Graphs
395. DFS
396. DFS – Code
397. BFS – Explain
398. Code : BFS Traversal
399. BFS – Code
400. Has Path?
401. Code : Has Path
402. BFS/DFS for Disconnected Graph
403. Get Path – DFS
404. Code : Get Path – DFS
405. Get Path – BFS
406. Code : Get Path – BFS
407. isConnected?
408. Code : isConnected?
409. All Connected Components
410. Code : All Connected Components
411. Variations of Graph

1. Graphs – 2
2. Minimum Spanning Trees
3. Intro to Kruskal’s Algorithm
4. Detect Cycle
5. Union Find Algorithm
6. How to code kruskal’s Algorithm
7. Kruskal’s Algorithm
8. Kruskal’s Algorithm Code
9. Complexity of Kruskal’s Algorithm
10. Prim’s Algorithm
11. Prim’s Algorithm Code
12. Complexity of Prism’s Algorithm
13. Dijkstra’s Algorithm
14. How to Code Dijktra’s Algorithm
15. Dijkstra’s Algorithm
16. Complexity of Dijkstra’s Algorithm
17. 2048 Game Project
18. 2048 intro
19. Starting with logics
20. Current State of Game
21. 2048 Game
22. Compress Function
23. Merge Function
24. Reverse and Transpose Functions
25. All possible moves in 2048
26. Code for Each possible move
27. Testing our Logic
28. Change or not
29. Merge and Compress Rectified
30. Constants
31. Staring with UI
32. Initializing our Grid
33. Updating grid cells
34. Pressing the key