

Class 11 Computer Chapter 4: Computational Structures

MULTIPLE CHOICE QUESTIONS

Primitive Computational Structures

Q1 Which of the following best describes primitive computational structures?

- ☐ a Advanced tools
- ☐ b Complex algorithms
- ☒ c Basic building blocks of computing
- ☐ d High-level data types

✓ Answer: c)

Q2 Which of the following is NOT a primitive computational structure?

- ☐ a Integers
- ☐ b Loops
- ☒ c Artificial Intelligence
- ☐ d Boolean values

✓ Answer: c)

Q3 Why are primitive computational structures important in computer science?

- ☐ a They reduce memory
- ☒ b They form the foundation for all software
- ☐ c Only for web development
- ☐ d Increase hardware cost

✓ Answer: b)

Q4 What does abstraction mean in computing?

- ☐ a Hide data
- ☐ b Combine simple
- ☒ c Combine simple parts into complex systems
- ☐ d Use high-level languages

✓ Answer: c)

Q5 How do primitives affect a system's capabilities?

- a Make programs look better
- b Decide what and how fast it computes**
- c Control internet speed
- d Improve graphics

✓ Answer: b)

Lists**Q6 What is a list in Python?**

- a Unordered items
- b Changeable sequence**
- c Print function
- d Loop type

✓ Answer: b)

Q7 How are lists created in Python?

- a Using parentheses ()
- b Using square brackets []**
- c Using curly braces {}
- d Using angle brackets <>

✓ Answer: b)

Q8 Which of the following is a property of Python lists?

- a Fixed size
- b Dynamic size**
- c Immutable after creation
- d Stores only numbers

✓ Answer: b)

Q9 What does index-based access mean in a list?

- a Access by name
- c Access by position**
- b Random access
- d Delete all items

✓ Answer: c)

Q10 If you have a list fruits = ["apple", "banana", "cherry"], what is fruits[1]?

- ☐ a apple
- ☒ b banana
- ☐ c cherry
- ☐ d error

✓ Answer: b)

Q11 What happens when you use the append() method on a list?

- ☐ a It deletes the last item
- ☒ b It adds an item to the end of the list
- ☐ c It sorts the list
- ☐ d It creates a new list

✓ Answer: b)

Q12 Which operation removes an item by its value in a list?

- ☐ a delete()
- ☒ b remove()
- ☐ c pop()
- ☐ d clear()

✓ Answer: c)

Q13 Which operation removes an item by its index in a list?

- ☐ a delete()
- ☒ b pop()
- ☐ c remove()
- ☐ d clear()

✓ Answer: b)

Q14 Which keyword checks if an item exists in a list?

- ☐ a for
- ☒ b in
- ☐ c if
- ☐ d exists

✓ Answer: b)

Q15 Which of the following is an application of lists?

- a Storing a single number
- b **Implementing stacks and queues**
- c Creating images
- d Playing music

✓ **Answer: b)**

Stacks

Q16 What is a stack?

- a Add/remove at both ends
- b **Add/remove from the top**
- c Add front, remove back
- d No specific order

✓ **Answer: b)**

Q17 Which principle does a stack follow?

- a FIFO
- b FILO
- c **LIFO**
- d LILO

✓ **Answer: c)**

Q18 What is the purpose of the push operation in a stack?

- a Remove the bottom item
- b **Add an item to the top**
- c Search for an item
- d Sort the stack

✓ **Answer: b)**

Q19 What is the purpose of the pop operation in a stack?

- a Add an item to the top
- b **Remove the top item**
- c Count the number of items
- d Print the stack

✓ **Answer: b)**

Q20 Which real-life example follows the stack principle?

- a Ticket line
- b **Browser back button**
- c Music playlist
- d Email inbox

✓ Answer: b)

Queues

Q21 What is a queue?

- a Add/remove from top
- b Add/remove from both ends
- c **Add at back, remove from front**
- d Store items randomly

✓ Answer: c)

Q22 Which principle does a queue follow?

- a LIFO
- b **FIFO**
- c FILO
- d Random Access

✓ Answer: b)

Q23 What is the enqueue operation in a queue?

- a Removing an item from the front
- b **Adding an item to the back**
- c Searching for an item
- d Printing the queue

✓ Answer: b)

Q24 What is the dequeue operation in a queue?

- a Adding an item to the back
- b **Removing an item from the front**
- c Sorting the queue
- d Copying the queue

✓ Answer: b)

Q25 Which real-life example follows the queue principle?

- ☐ a Browser history
- ☒ b People waiting in line at a bank
- ☐ c Undo/redo buttons
- ☐ d Stack of books

✓ Answer: b)

Trees

Q26 What is a tree in data structures?

- ☐ a Linear data
- ☒ b Hierarchical structure
- ☐ c Loop
- ☐ d Math function

✓ Answer: b)

Q27 Which node is the starting point of a tree?

- ☐ a Leaf node
- ☒ b Root node
- ☐ c Child node
- ☐ d Parent node

✓ Answer: c)

Q28 What is a leaf node?

- ☐ a A node with many children
- ☒ b A node with one child
- ☐ c A node with no children
- ☐ d A node with no parent

✓ Answer: c)

Q29 What is the height of a tree?

- ☐ a No. of nodes
- ☒ b Longest path (root to leaf)
- ☐ c Memory used
- ☐ d No. of leaves

✓ Answer: b)

Q30 Which traversal is used for backing up files in a directory?

- a In-order
- b Post-order
- c Pre-order**
- d Level-order

✓ Answer: c)

Introduction to Graphs

Q31 What is a graph in data structures?

- a A linear structure
- b A hierarchical structure
- c A set of vertices connected by edges**
- d A type of array

✓ Answer: c)

Q32 Which of the following is NOT a characteristic of a graph?

- a Vertices
- b Edges
- c One-directional flow only**
- d Weighted or unweighted edges

✓ Answer: c)

Q33 In which structure can cycles exist?

- a Tree
- b Graph**
- c Stack
- d Queue

✓ Answer: b)

Q34 Which of the following is a real-world example of a graph?

- a File system
- b Family tree
- c Social network**
- d Web page navigation

✓ Answer: c)

Q35 Which type of graph has edges with direction?

- a Undirected graph
- b **Directed graph**
- c Weighted graph
- d Binary graph

✓ Answer: b)

Q36 Which type of graph uses weights on edges?

- a Undirected graph
- b Directed graph
- c **Weighted graph**
- d Unweighted graph

✓ Answer: c)

Q37 Which of the following best describes a tree?

- a Graph with cycles
- b **Graph with no cycles and a root**
- c Random graph
- d Circular graph

✓ Answer: b)

Q38 Which of the following is a difference between trees and graphs?

- a Trees have cycles
- b Trees have many paths
- c **Trees have root; graphs may not**
- d Trees are more flexible

✓ Answer: c)

Q39 What is the degree of a vertex in a graph?

- a The number of loops
- b **The number of edges connected to it**
- c The total number of vertices
- d The weight of the vertex

✓ Answer: b)

Q40 Which real-life example represents an undirected graph?

- ☐ a Twitter followers
 ☒ b Facebook friendships
 ☐ c One-way streets
 ☐ d Email spam links

✓ Answer: b)

Answer Key

Q#	Ans	Q#	Ans	Q#	Ans	Q#	Ans
1	c	11	b	21	c	31	c
2	c	12	c	22	b	32	c
3	b	13	b	23	b	33	b
4	c	14	b	24	b	34	c
5	b	15	b	25	b	35	b
6	b	16	b	26	b	36	c
7	b	17	c	27	c	37	b
8	b	18	b	28	c	38	c
9	c	19	b	29	b	39	b
10	b	20	b	30	b	40	b

Summary of Topics Covered

Topic	Question Numbers
Primitive Computational Structures	1 - 5
Lists	6 - 15
Stacks	16 - 20
Queues	21 - 25
Trees	26 - 30
Graphs	31 - 40

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