99

Which one of the following **is not** an I/O command?

- a. Status command
- b. Output data command
- c. Control command
- **d. Issue command**

Answer D

Which one of the following form attribute is used to assign the server side script file that processes the form data?

- **a. Action**
- b. Autocomplete
- c. Method
- d. Target

Answer A

When to use the Spiral Model?

- a. Where business modeling is clearly understood and in use.
- b. When it is too risky to develop the overall system as one block.
- c. When requirements are understood in the early stages but can change during the project's life cycle.
- **d. When requirements are unstable and constantly changing.**

Answer D

In C++, what does the **cout** object typically represent?

- **a. Standard input stream**
- b. Keyboard input buffer
- c. Error output stream
- d. Standard output stream

Answer D

In a columnar database, data is stored:

- a. Row-wise
- b. In a hierarchical structure
- c. Column-wise
- d. In a network model

Answer C

$a \rightarrow b$, **L** state transition in a Turing Machine means,

- a. read a, write b and move left
- b. delete a, read b and move left
- c. write a, read b and move left
- d. replace b by a and move left

Answer A

What is a characteristic feature of round-robin scheduling in both preemptive and non- preemptive forms?

- a. It assigns priorities to tasks based on their relative importance.
- b. It always selects the task with the shortest remaining time.
- c. It favors short tasks over long tasks.
- d. It guarantees fairness by providing each task with an equal time slice.

N

Answer D

Indexes in database tables speed up the _____ operations.

○ a. Read operations
○ b. Delete operations
○ c. Update operations
○ d. Write operations

Answer A

What is the term for a named block of code that performs a specific task?

○ a. Condition
○ b. Variable
○ c. Function
○ d. Loop

Answer C

What would be the asymptotic time complexity to add a node at the end of singly linked list, if the pointer is initially pointing to the head of the list?

○ a. $O(n)$
○ b. $\theta(1)$
○ c. $\theta(n)$
○ d. $O(1)$

Answer A

Which learning technique in AI involves the use of labeled examples to train a model to make predictions or decisions?

○ a.   Semi-supervised learning
○ b.   Unsupervised learning
○ c.   Supervised learning
○ d.   Reinforcement learning

Answer C

A PC obtains its IP address from a **DHCP** server. If the PC is taken off the network for repair, what happens to the IP address configuration?

○ a.   The address is returned to the pool for reuse when the lease expires.
○ b.   The address lease is automatically renewed until the PC is returned.
○ c.   The configuration is held by the server to be reissued when the PC is returned
○ d.   The configuration is permanent and nothing changes.

Answer A

The elements must be in sorted order in case of,

○ a.   Quick search
○ b.   Selection search
○ c.   Binary search
○ d.   Linear search

Answer C

Which analysis case calculates the upper bound on running time of an algorithm?

- a. Optimal case
- b. Best case
- c. Average case
- d. Worst case

Answer D

How are the objects organized in the HTML DOM?

- a. Hierarchy
- b. Queue
- c. Stack
- d. Class-wise

Answer A

Which one of the following is the output of syntax analysis phase?

- a. Syntax tree
- b. Annotated parse tree
- c. Abstract syntax tree
- d. Pattern

Answer A

What does the if-else statement allow you to do in **C++?**

○ a. Declare and define functions
○ b. Allocate memory dynamically
○ c. Execute a block of code only if a condition is true, otherwise execute another block of code
○ d. Repeat a block of code multiple times

Answer C

One of the following is **not true** about the Inheritance?

○ a. The subclass can add variables, but cannot redefine them.
○ b. The derived class (subclass) is allowed to add methods or redefine them.
○ c. A feature that allow us to drive class from another class.
○ d. Allows programmers to customize with actually modifying the original class (the superclass).

Answer A

Which one of the following is an efficient top-down parser?

○ a. Recursive-descent parser
○ b. Shift-reduce parser
○ c. Non-recursive predictive parser
○ d. LR parser

Answer C

Which objective of modern operating systems involves providing a consistent and convenient environment for running applications?

- a. Maximizing hardware utilization
- b. Ensuring fault tolerance
- c. Providing security and protection
- d. Providing a user-friendly interface

Answer D

Which one of the following **is not** the concern of availability?

- a. Fault tolerance
- b. Alteration of resources
- c. Usefulness of resources
- d. Fair allocation of resources

Answer B

The simple strategy in which the root node is expanded first, then all the successors of the root node are expanded next, then their successors, and so on which is Expand the tree layer by layer. refers to,

- a. Greedy best-first search
- b. Depth-first search(DFS)
- c. Depth limited Search(DLS)
- d. Breadth-first search (BFS)

Answer D

Person A sends a message to person B. while the message is transmitted; person C has gained an access to the message. Which category of an attack is performed by person C?

- a. Modification
- b. Interception
- c. Interruption
- d. Fabrication

Answer B

Which data structure is used to store information about the source program constructs?

- a. 2d-array
- b. Stack
- c. Tree
- d. Queue

Answer C

In which network topology consists of a single line cable- called a backbone connecting all nodes on a network without intervening connected deviecs?

- a. Bus
- b. Ring
- c. Star
- d. Mesh

Answer A

Which database design concept is commonly used in e-commerce platforms to efficiently store and retrieve customer order information?

○ a. Normalization
○ b. Denormalization
○ c. Partitioning
○ d. Indexing

Answer A

Which one of the following terms refers to the techniques used for deciphering a cipher text without any knowledge of the enciphering mechanism involved?

○ a. Cryptography
○ b. Cryptology
○ c. Cryptanalysis
○ d. Decryption

Answer C

All of the followings are scheduling criteria **except?**

○ a. CPU utilization
○ b. Min Turnaround time
○ c. Max Throughput
○ d. Max Response time

Answer D

Given a binary search tree, which traversal type would print the values in the nodes in sorted order?

○ a. Pre-order
○ b. Pre-order and Post-order
○ c. In-order
○ d. Post-order

Answer C

The user who programs a computer in machine or assembly language must be aware of the following **except** _____.

○ a. The register set
○ b. The type of data supported by the instructions
○ c. The analysis model
○ d. The memory structure

Answer C

In computer programming, what is the purpose of control structures such as loops and conditional statements?

○ a. To control the flow of program execution
○ b. To perform mathematical
○ c. To define the data types used in a program
○ d. To allocate memory for variables

Answer A

Which of the following methods can be used to refresh a **webpage?**

○ a. Location.relocate
○ b. Window.Relocate
○ c. Window.resefresh
○ d. Location.Reload

Answer D

In computer networking, _____ refers to how various nodes, devices, and connections on your network are physically or logically arranged in relation to each other

- ○ a. Network layer
- ○ b. Network installation
- ○ c. Network protocol
- ○ d. Network topology

Answer D

Which of the following **is not** a component of Turing Machine?

- ○ a. Read-write head
- ○ b. Control Unit
- ○ c. Stack
- ○ d. Tape

Answer C

A module is said to have logical cohesion, if

- ○ a. All the functions of the module are executed within the same time span.
- ○ b. All elements of the module depend on their interface complexity.
- ○ c. It performs a set of tasks that relate to each other very loosely.
- ○ d. All elements of the module perform similar operations.

Answer D

When encountering a syntax error in code, what is the first step you should take to resolve it?

- a. Rewrite the entire
- b. Ignore the error and continue execution
- c. Use a debugger tool
- d. Check the code for typos or incorrect syntax

Answer D

Which **OOP** concept allows objects of different classes to be treated as objects of a common superclass?

- a. Polymorphism
- b. Inheritance
- c. Abstraction
- d. Encapsulation

Answer A

In which phase of the compilation process does the source program get broken in to its constituent parts?

- a. Semantic analysis
- b. Syntax analysis
- c. Synthesis
- d. Lexical analysis

Answer D

Which part of the computer system is responsible for converting machine processed data to different formats that are understandable by user?

- a. Communication components
- b. Output unit
- c. Storage unit
- d. Input unit

Answer B

If a sequence of operations- push(1), push(2), pop, push(1),push(2),pop, pop , pop, push(2),pop are performed on a stack , the sequence of popped out values are_____.

- a. 2,1,2,2,1
- b. 2,2,1,1,2
- c. 2,1,2,2,2
- d. 2,2,1,2,2

Answer A

Which function of modern operating systems involves managing hardware resources such as CPU, memory, and I/O devices?

- a. File management
- b. Device management
- c. Process management
- d. Security management

Answer C

Which one of the following has the fastest access time and the highest cost?

○ a. Register
○ b. Magnetic disc
○ c. Main memory
○ d. Cache memory

Answer A

What is the purpose of interfaces in **Java?**

○ a. To create multiple constructors for a class
○ b. To define the state and behavior of an object
○ c. To define a blueprint of a class
○ d. To achieve multiple inheritance

Answer D

Which software engineering principles are used to help reduce the programming complexity?

○ a. Structured and unstructured
○ b. Object oriented Design
○ c. Abstraction and Decomposition.
○ d. Functional and Non-functional

Answer C

Which **OOP concept** allows a class to implement multiple interfaces in **Java?**

○ a. Polymorphism
○ b. Encapsulation
○ c. Inheritance
○ d. Interface

Answer D

In a grammar, if the production S → λ where S is a non-terminal is existed, such production is called _____?

○ a. Null Production
○ b. Unit Production
○ c. Secondary Production
○ d. Sigma Production

Answer B

Which database design concept is commonly used in online gaming platforms to handle real-time interactions between players?

○ a. Replication
○ b. NoSQL databases
○ c. Distributed databases
○ d. Partitioning

Answer C

Which one of the following is the **correct syntax** for document type declaration in **HTML5?**

○ a.   </doctype html>
○ b.   <!doctype! html>
○ c.   <doctype! html>
○ d.   <!doctype html>

Answer D

If an algorithm has a running time function of $3n^2 + 7n + 12$. What will be the complexity class of the running time?

○ a.   Linear
○ b.   Polynomial
○ c.   Constant
○ d.   Exponential

Answer B

Recursion is a method in which the solution of a problem depends on _____.

○ a.   Larger instances of the same problem
○ b.   Smaller instances of the same problem
○ c.   Larger instances of different problems
○ d.   Smaller instances of different problems

Answer B

Which **SQL** command is used to modify existing data in a table?

○ a.   ALTER
○ b.   UPDATE
○ c.   MODIFY
○ d.   CHANGE

Answer B

Which normal form ensures that there are no repeating groups in a table?

○ a. Second Normal Form (2NF)
○ b. Third Normal Form (3NF)
○ c. Boyce-Codd Normal Form (BCN
○ d. First Normal Form (1NF)

Answer D

Which of the following is **not true** about Reasoning?

○ a. Knowledge system to do something.
○ b. A process of thinking, logically arguing, and drawing inference.
○ c. Theory of blind searching.
○ d. The act of deriving a conclusion from certain premises using a given methodology.

Answer C

What is the purpose of normalization in database design?

○ a. To reduce redundancy and improve data integrity.
○ b. To speed up query performance.
○ c. To create complex relationships between tables.
○ d. To encrypt sensitive data.

Answer A

Which one of the following is a **false** statement?

- a. A web browser is software that runs on a server
- b. A website is a collection of resources in various forms
- c. A web page is the basic unit of information storage on the www
- d. A user agent renders resources for a user to view

Answer A

Which string from the following is member of the language represented by the regular expression, a*(b+c)

- a. aab
- b. bc
- c. aaa
- d. aaabc

Answer A

If a problem can be solved by combining optimal solutions to non-overlapping problems, the strategy is called _____.

- a. Dynamic programming
- b. Divide and conquer
- c. Recursion
- d. Greedy

Answer B

In asymmetric cryptography, the message is decrypted using _____.

O a. Receiver's public key
O b. Receiver's private key
O c. Sender's private key
O d. Sender's public key

Answer B

In C++, what does the **cout** object typically represent?

O a. Standard input stream
O b. Keyboard input buffer
O c. Error output stream
O d. Standard output stream

Answer D

When can we say two grammars are equivalent?

O a. When the language derived from one of the grammars become the subset of the other
O b. When the alphabets of the two grammars are the same
O c. When the languages represented by both grammars are the same
O d. When a single string is member of the language represented by both grammars

Answer C

Which reasoning technique in artificial intelligence is based on a set of rules and logical inference to derive conclusions?

- O a. Abductive reasoning
- O b. Analogical reasoning
- O c. Deductive reasoning
- O d. Inductive reasoning

Answer C

Which of the following **is not** a type of database management system **(DBMS)?**

- O a. PostgreSQ
- O b. MongoDB
- O c. Java
- O d. MySQL

Answer C

In computers, subtraction is carried out generally by____.

- O a. 1's complement method
- O b. 2's complement method
- O c. signed magnitude method
- O d. BCD subtraction method

Answer B

Which one of the following **is not** a component of communication?

- ○ a. Distance
- ○ b. Source
- ○ c. Destination
- ○ d. Medium

Answer A

Which one of the following **is not** a static check?

- ○ a. Type checking for compatibility
- ○ b. Uniqueness checks like redefined variables
- ○ c. A break instruction that is not in inclosing statement
- ○ d. Memory access errors

Answer D

_____ is a system that monitors traffic into and out of a network and automatically alerts personnel when suspicious traffic patterns occur, indicating a possible unauthorized intrusion attempt.

- ○ a. Anti-Virus Software
- ○ b. IDS
- ○ c. Firewall
- ○ d. Router

Answer B

Which one of the following terms refers to the machine on which the requested resource is stored?

○ a. Port
○ b. Query
○ c. Host
○ d. Protocol

Answer C

Which scheduling algorithm is commonly associated with the concept of aging, where the priority of a task increases the longer it waits in the ready queue?

○ a. Round Robin (RR)
○ b. Shortest Job Next (SJN)
○ c. Priority Scheduling
○ d. Shortest Remaining Time First (SRTF)

Answer C

Why heuristic (A*) search method?

○ a. To speed up search and edge lengths to compute optimal paths.
○ b. To find the path with the maximum distance from the start node to the goal node.
○ c. To find the path with the Non-optimal searches from node to the goal node.
○ d. To find the path with the maximum cost from the start node to the goal node.

Answer A

When is the appropriate time to shut down a system?

- ○ a. Using regular schedules
- ○ b. For maintenance and upgrade
- ○ c. To check for security alerts
- ○ d. When there is a failure

Answer B

Out of the following life cycle models which one can be considered as the most general model, and the others as specialization of it?

- ○ a. Spiral Model
- ○ b. Prototyping Model
- ○ c. Classical Waterfall Model
- ○ d. Iterative Waterfall Model

Answer A

Which one of the following cryptography systems uses the same key for encryption and decryption?

- ○ a. Public key cryptography
- ○ b. Parallel cryptography
- ○ c. Asymmetric cryptography
- ○ d. Symmetric cryptography

Answer D

The E-R data model is based on a perception of the real world that consists of a set of basic objects called ___

- ○ a. Objects
- ○ b. Classes
- ○ c. Entities
- ○ d. Attributes

Answer C

In which network topology should every computer have N-1 I/O ports when there is N number of computers in the network?

- ○ a. Star
- ○ b. Mesh
- ○ c. Bus
- ○ d. Ring

Answer B

What is the primary key in a relational database?

- ○ a. A unique identifier for each row in a table.
- ○ b. A foreign key from another table.
- ○ c. A key used for encryption.
- ○ d. An index on a non-unique column.

Answer A

Which C++ statement is used to terminate a loop prematurely and transfer control to the next iteration of the loop?

○ a. break;
○ b. exit;
○ c. return;
○ d. continue; -

Answer D

Which one of the following disk interfaces is used as a standard interface for PCs?

○ a. SCSI
○ b. iSCSI
○ c. IDE
○ d. USB

Answer C

In a system susceptible to deadlock, what does the "no preemption" condition imply?

○ a. Resources can be preempted and assigned to other processes.
○ b. Processes cannot request additional resources while holding others.
○ c. Resources cannot be preempted while they are in use.
○ d. Processes must release all resources when blocked.

Answer C

Which of the following is **false** in Data structures and Algorithms?

○ a. A tree contains a cycle.
○ b. Tree is a non-linear data structure.
○ c. A tree is a connected graph
○ d. A tree with n modes contains (n-1) edge

Answer A

What is the role of a database administrator **(DBA)?**

○ a. Designing user interfaces for database applications.
○ b. Developing front-end application
○ c. Writing complex SQL queries.
○ d. Managing and maintaining databases.

Answer D

Which attribute of <img> tag is used when we want to display a text in place of an image when, due to any reason, the image is not displayed?

○ a. rep
○ b. pla
○ c. alt
○ d. im

Answer C

If queue is implemented using arrays, what would be the worst run time complexity of queue and dequeue operations?

- ○ a. $O(n), O(1)$
- ○ b. $O(1), O(n)$
- ○ c. $O(1), O(1)$
- ○ d. $O(n), O(n)$

Answer A

Which of the following concepts in **OOP** allows a class to inherit attributes and methods from another class?

- ○ a. Inheritance
- ○ b. Abstraction
- ○ c. Encapsulation
- ○ d. Polymorphism

Answer A

Which of the following is the top level object?

- ○ a. Root object
- ○ b. Document Object
- ○ c. JavaScript Object
- ○ d. Window Object

Answer D

Which tool is used to collect codes separately compiled or assembled in different object files into a file that is directly executable?

- ○ a. Linker
- ○ b. Loader
- ○ c. Assembler
- ○ d. Resolver

Answer A

Among the following which kind of algorithm is used in the Game tree to make decisions of Win/Lose?

- ○ a. Heuristic Search Algorithm
- ○ b. Min/Max Algorithm
- ○ c. Depth First Search algorithm
- ○ d. Greedy Search Algorithm

Answer B

Which one of the following **is not** a reason for the need of backups?

- ○ a. Security incidents
- ○ b. Upgrades and migrations
- ○ c. Hardware failures
- ○ d. Authorization

Answer D

Which one of the following **is not** a characteristic of an algorithm?

○ a. Definiteness
○ b. Output
○ c. Finiteness
○ d. Efficiency

Answer D

Which command in Microsoft Windows will allow you to verify your IP address, subnet mask, default gateway, and MAC address?

○ a. C:\>ipconfig /all
○ b. C:\>ping
○ c. C:\>ipconfig
○ d. C:\>ipstatus

Answer A

One of the following **is not** Characteristics of Java?

○ a. Java is Object-Oriented
○ b. Java is Platform Independent
○ c. Java is difficult to Learn
○ d. Java is architecture neutral.

Answer C

In data communication, data rate refers how fast we can send data and is measured in bits per second. Which one of the following is not a factor for data rate?

- a. Travel distance
- b. Bandwidth available
- c. Level of noise
- d. Levels of the signals

Answer A

Which layer of the **OSI model** ensures that the whole message (group of packets) arrives to the destination intact and in order?

- a. Session layer
- b. Transport layer
- c. Data link layer
- d. Network layer

Answer B

Which System Requirement Specification includes human computer interface issues from the system?

- a. Functional requirements of the system
- b. Non-functional requirements of the system
- c. Goals of implementation
- d. System Testing

Answer B

In a classical waterfall model, which phase precedes the design phase?

○ a. Requirements analysis and specification
○ b. Maintenance
○ c. Feasibility study
○ d. Coding and unit testing

Answer A

Which bus is bidirectional?

○ a. Control bus
○ b. Data bus
○ c. Uni-bus
○ d. Address bus

Answer B

Which one of the following **is not** an I/O command?

○ a. Status command
○ b. Output data command
○ c. Control command
○ d. Issue command

Answer D

Which one of the following form attribute is used to assign the server side script file that processes the form data?

○ a. Action
○ b. Autocomplete
○ c. Method
○ d. Target

Answer A

In **MySQL** architecture, the function of the ___ is to keep copies of data for retrieval later, in case of a loss of data.

○ a.   Buffer Manager
○ b.   Transaction Manager
○ c.   Query Engine
○ d.   Recovery Manager

Answer D

What role does machine learning play in understanding human perception?

○ a.   Machine learning helps in simulating human perception through neural networks.
○ b.   Machine learning has no relevance to understanding human perception.
○ c.   Machine learning is not capable of analyzing perceptual data.
○ d.   Machine learning only focuses on logical reasoning and decision-making.

Answer A

When to use the Spiral Model?

○ a.   Where business modeling is clearly understood and in use.
○ b.   When it is too risky to develop the overall system as one block.
○ c.   When requirements are understood in the early stages but can change during the project's life cycle.
○ d.   When requirements are unstable and constantly changing.

Answer B

The first step in access control is _____.

- ○ a. Audit
- ○ b. Authorization
- ○ c. Accreditation
- ○ d. Authentication

Answer D

The amount of memory needs to run to completion is known as _____.

- ○ a. Space complexity
- ○ b. Time complexity
- ○ c. Worst case
- ○ d. Best case

Answer A

Which class of languages is most suited to be represented by pushdown automata?

- ○ a. Context free language
- ○ b. Regular language
- ○ c. Recursively enumerable language
- ○ d. Unrestricted language

Answer A

Which of the following **is not** a type of database model?

○ a. Linear
○ b. Object-Oriented
○ c. Hierarchical
○ d. Relational

Answer A