CUET 2026 May 11 (Shift-2) Computer Science

Question Paper (Memory-Based) With Solutions PDF

Conducted by National Testing Agency (NTA)

General Instructions

(i) The test is of 1 hour duration.

(ii) The question paper consists of 50 questions. The maximum marks are 250.

(iii) 5 marks are awarded for every correct answer, and 1 mark is deducted for every wrong answer.

1. Which SQL command is used to remove all rows from a table without deleting the table structure?

(A) DELETE

(B) DROP

(C) TRUNCATE

(D) REMOVE

Correct Answer: (C) TRUNCATE

Solution:

Step 1: Understanding the Concept:

In SQL, there are different Data Manipulation Language (DML) and Data Definition Language (DDL) commands used to manage data and structures.

Step 2: Detailed Explanation:

- **DELETE:** This is a DML command used to remove rows. However, it is typically slower for removing all rows as it logs each deletion and can be used with a `WHERE` clause.
- **DROP:** This command deletes the entire table, including its data and its structure (the

schema).

- **TRUNCATE:** This is a DDL command that removes all rows from a table. It is faster than DELETE because it doesn't log individual row deletions, and it preserves the table structure for future use.

Step 3: Final Answer:

The command used to remove all rows while keeping the structure is TRUNCATE.

Quick Tip: Think of it this way: DELETE is like erasing lines in a notebook, TRUNCATE is like ripping out all the pages but keeping the cover, and DROP is like throwing the whole notebook in the trash!

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2. What will be the output of the following Python code?

```
a = [1, 2, 3]
print(a[::-1])
```

(A) [1, 2, 3]

(B) [3, 2, 1]

(C) Error

(D) None

Correct Answer: (B) [3, 2, 1]

Solution:

Step 1: Understanding the Concept:

This question tests your knowledge of "Slicing" in Python. Slicing allows you to access a specific range or order of elements in a sequence like a list or string.

Step 2: Detailed Explanation:

The syntax for slicing is `[start:stop:step]`.

- In the code `a[::-1]`, the `start` and `stop` values are omitted, which means Python considers the whole list.
- The `step` value is `-1`. A negative step means the list is traversed backwards.

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- Therefore, `a[::-1]` creates a new list starting from the last element and moving to the first.

Step 3: Final Answer:

The output will be the reversed list: [3, 2, 1].

Quick Tip: The slice `[::-1]` is the "Pythonic" way to reverse a list or string. It's concise, fast, and very common in coding interviews!

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3. Which protocol is used for sending e-mails?

(A) HTTP

(C) SMTP

(B) FTP

(D) TCP

Correct Answer: (C) SMTP

Solution:

Step 1: Understanding the Concept:

Networking protocols are sets of rules that govern how data is exchanged across a network. Different tasks (web browsing, file transfer, email) use different protocols.

Step 2: Detailed Explanation:

- **HTTP (Hypertext Transfer Protocol):** Used for accessing websites.
- **FTP (File Transfer Protocol):** Used for transferring files between computers.
- **SMTP (Simple Mail Transfer Protocol):** This is the standard protocol specifically designed for sending emails from a client to a server or between servers.
- **TCP (Transmission Control Protocol):** A foundational protocol that ensures reliable delivery of data packets, but it isn't specific to email content.

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Step 3: Final Answer:

The protocol used for sending emails is SMTP.

Quick Tip: To remember this, think of the "S" in SMTP as standing for "Sending" Mail. For receiving mail, we typically use POP3 or IMAP.

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4. In Python, which data type is immutable?

(A) List

(B) Dictionary

(C) Set

(D) Tuple

Correct Answer: (D) Tuple

Solution:

Step 1: Understanding the Concept:

In programming, "mutability" refers to whether an object's state or content can be changed after it is created. Immutable objects cannot be changed, while mutable objects can.

Step 2: Detailed Explanation:

- **Mutable (Can change):** Lists, Dictionaries, and Sets allow you to add, remove, or modify elements in place.
- **Immutable (Cannot change):** Tuples, Strings, and Integers do not allow modification. Once a tuple is created, you cannot change its elements or its size.

Step 3: Final Answer:

The Tuple is the immutable data type among the options.

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Quick Tip: Think of a List as a pencil-written list (you can erase and change it) and a Tuple as one written in permanent ink. Use Tuples when you want to make sure your data stays constant throughout the program.

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5. Which of the following is NOT a valid aggregate function in SQL?

(A) AVG()

(B) SUM()

(C) COUNT()

(D) COMPUTE()

Correct Answer: (D) COMPUTE()

Solution:

Step 1: Understanding the Concept:

Aggregate functions in SQL perform a calculation on a set of values and return a single value. They are often used with the `GROUP BY` clause.

Step 2: Detailed Explanation:

Standard SQL aggregate functions include:

- **AVG():** Calculates the average value.
- **SUM():** Adds up all the values.
- **COUNT():** Counts the number of rows.
- **MAX() / MIN():** Finds the highest and lowest values.

COMPUTE() is not a standard aggregate function in modern SQL. While some legacy systems had a COMPUTE clause for generating summary rows, it is not a standard function used in `SELECT` statements like the others.

Step 3: Final Answer:

COMPUTE() is not a valid aggregate function.

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Quick Tip: Aggregate functions usually ignore `NULL` values, except for `COUNT()`, which counts every row regardless of content.

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6. What is the full form of URL?

(A) Uniform Resource Locator

(B) Universal Resource Link

(C) Uniform Reference Link

(D) Unified Resource Locator

Correct Answer: (A) Uniform Resource Locator

Solution:

Step 1: Understanding the Concept:

A URL is the global address of documents and other resources on the World Wide Web.

Step 2: Detailed Explanation:

The acronym stands for **Uniform Resource Locator**.

- **Uniform:** It follows a standard format.
- **Resource:** It points to a file, page, or image.
- **Locator:** It provides the "location" or address of that resource on the internet.

Step 3: Final Answer:

The full form of URL is Uniform Resource Locator.

Quick Tip: A URL consists of several parts: the protocol (http://), the domain name (google.com), and the path (/search). Together, they tell your browser exactly where to find a specific resource.

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7. Which keyword is used to define a function in Python?

(A) function

(B) define

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(C) def

(D) func

Correct Answer: (C) def

Solution:

Step 1: Understanding the Concept:

In programming, a function is a reusable block of code that performs a specific task. Every language has a specific "reserved word" or keyword to tell the interpreter that a function is being created.

Step 2: Detailed Explanation:

In Python, the keyword used is **def**, which is short for "define."

- The syntax follows the structure: `def function_name():`
- Unlike some other languages like JavaScript (which uses `function`) or C++ (which uses the return type), Python keeps it concise with three letters.

Step 3: Final Answer:

The keyword used to define a function in Python is `def`.

Quick Tip: Remember that Python is designed for readability and brevity. Most of its keywords are short (e.g., 'def', 'elif', 'pass').

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8. Which topology uses a central hub/switch?

(A) Ring Topology

(B) Bus Topology

(C) Mesh Topology

(D) Star Topology

Correct Answer: (D) Star Topology

Solution:

Step 1: Understanding the Concept:

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Network topology refers to the physical or logical layout of a network—how various nodes (computers, printers) are connected to each other.

Step 2: Detailed Explanation:

- **Star Topology:** Every node is connected to a central device (a hub, switch, or router). All data passes through this central point before reaching its destination.
- **Bus Topology:** All nodes share a single main cable (the "bus").
- **Ring Topology:** Each node is connected to exactly two other nodes, forming a continuous circle.
- **Mesh Topology:** Every node is connected to every other node (or many others) for high redundancy.

Step 3: Final Answer:
The Star Topology uses a central hub or switch.

Quick Tip: Star topology is the most common layout in modern office and home networks because if one computer's cable breaks, the rest of the network keeps working!

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9. What will be the output?

```
x = 5
y = 2
print(x // y)
```

(A) 2.5
(B) 2
(C) 3
(D) Error

Correct Answer: (B) 2

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Solution:

Step 1: Understanding the Concept:

Python provides different types of division operators: / for standard division and // for "Floor Division."

Step 2: Detailed Explanation:

1. Standard division (5/2) would result in 2.5. 2. Floor division (5//2) performs the division and then "rounds down" to the nearest whole integer. 3. Mathematically: $5 \div 2 = 2.5$. The "floor" of 2.5 is 2. Note: If the result is negative, it still rounds down (away from zero). For example, $-5//2$ would be -3.

Step 3: Final Answer:

The output of `5 // 2` is 2.

Quick Tip: To remember the difference: - '/' gives you the decimal. - '//' gives you the integer (quotient). - '

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10. Which clause is used to filter records in SQL?

(A) ORDER BY

(B) GROUP BY

(C) WHERE

(D) HAVING

Correct Answer: (C) WHERE

Solution:

Step 1: Understanding the Concept:

Filtering is the process of selecting specific rows from a table that meet a certain criteria, while hiding the rows that do not.

Step 2: Detailed Explanation:

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- **ORDER BY:** Used to sort the result set in ascending or descending order.
- **GROUP BY:** Used to arrange identical data into groups, often used with aggregate functions.
- **WHERE:** This is the primary clause used to **filter records**. It acts on individual rows before any grouping occurs. For example: `SELECT FROM students WHERE age > 18;`
- **HAVING:** Also used for filtering, but it specifically filters **groups** created by the `GROUP BY` clause, not individual rows.

Step 3: Final Answer:

The `WHERE` clause is used to filter records.

Quick Tip: A common interview question is the difference between 'WHERE' and 'HAVING'. Just remember: WHERE filters the rows before they are grouped, and HAVING filters the results after they are grouped.

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