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Test Name:	Milestone - 2   LTIMindtree IGNITE Program - Data Track (ATTEMPT : 1)
Taken On:	9 Apr 2023 10:50:45 IST
Time Taken:	162 min 21 sec/ 165 min
Invited by:	Great Learning
Invited on:	9 Apr 2023 10:48:35 IST
Skills Score:	<div>SQL (Advanced) 10/10</div> <div>SQL (Basic) 20/20</div>
Tags Score:	<div>Aggregation 20/20</div> <div>Cloud Computing 2/2</div> <div>Database 20/20</div> <div>Easy 6.33/20</div> <div>Functions 2/2</div> <div>Hard 4/4</div> <div>Linux 3/5</div> <div>Medium 46/46</div> <div>SQL 30/30</div> <div>Simple Joins 20/20</div> <div>Sorting 20/20</div> <div>cloud 10/10</div> <div>easy 1/1</div>

84.3%

84/100

scored in **Milestone - 2 | LTIMindtree IGNITE Program - Data Track (ATTEMPT : 1)** in 162 min 21 sec on 9 Apr 2023 10:50:45 IST

#### Recruiter/Team Comments:

No Comments.

#### Plagiarism flagged

We have marked questions with suspected plagiarism below. Please review.

	Question Description	Time Taken	Score	Status
Q1	Social Netwrok Analysis > DbRank	41 min 20 sec	10/ 10	✓
Q2	Prime Partition > Coding	6 min 51 sec	2/ 10	⚠

Q3	<a href="#">Numpy Matrix Operations</a> > Coding	47 min 42 sec	20/ 20	✓
Q4	<a href="#">Sales Performance Analysis</a> > DbRank	11 min 49 sec	20/ 20	✓
Q5	<a href="#">SQL: Which one of the following</a> > Multiple Choice	3 min 6 sec	0.33/ 1	⚠
Q6	<a href="#">SQL - Basic - III</a> > Multiple Choice	36 sec	1/ 1	✓
Q7	<a href="#">SQL: Normalization</a> > Multiple Choice	1 min 29 sec	1/ 1	✓
Q8	<a href="#">Cloud Computing</a> > Multiple Choice	41 sec	1/ 1	✓
Q9	<a href="#">syntax</a> > Multiple Choice	1 min 28 sec	0/ 1	✗
Q10	<a href="#">Linux - Removing a file</a> > Multiple Choice	25 sec	1/ 1	✓
Q11	<a href="#">Bash : list all running processes</a> > Multiple Choice	5 sec	1/ 1	✓
Q12	<a href="#">SUBSTR</a> > Multiple Choice	1 min 5 sec	0/ 1	✗
Q13	<a href="#">cloud deployment models</a> > Multiple Choice	2 min 35 sec	1/ 1	✓
Q14	<a href="#">SQL - Basic - V</a> > Multiple Choice	23 sec	0/ 1	✗
Q15	<a href="#">AWS global infra</a> > Multiple Choice	26 sec	1/ 1	✓
Q16	<a href="#">Cloud Computing</a> > Multiple Choice	6 sec	1/ 1	✓
Q17	<a href="#">Functions - III</a> > Multiple Choice	1 min 27 sec	1/ 1	✓
Q18	<a href="#">SQL: 6th and 10th highest amount</a> > Multiple Choice	39 sec	0/ 1	✗
Q19	<a href="#">cloud deployment</a> > Multiple Choice	3 min 42 sec	1/ 1	✓
Q20	<a href="#">SQL - Basic - IV</a> > Multiple Choice	18 sec	1/ 1	✓
Q21	<a href="#">Functions - II</a> > Multiple Choice	29 sec	1/ 1	✓
Q22	<a href="#">Numpy - 3</a> > Multiple Choice	21 sec	1/ 1	✓
Q23	<a href="#">View - I</a> > Multiple Choice	25 sec	0/ 1	✗
Q24	<a href="#">Linux distribution</a> > Multiple Choice	14 sec	1/ 1	✓
Q25	<a href="#">Distributed computing - II</a> > Multiple Choice	3 min 54 sec	2/ 2	✓
Q26	<a href="#">Bash Scripts</a> > Multiple Choice	37 sec	0/ 2	✗
Q27	<a href="#">Price Economics - II</a> > Multiple Choice	1 min 49 sec	2/ 2	✓
Q28	<a href="#">Pricing Strategy</a> > Multiple Choice	5 min 3 sec	2/ 2	✓
Q29	<a href="#">Pandas</a> > Multiple Choice	1 min 1 sec	2/ 2	✓
Q30	<a href="#">SQL: Create a new table as same structure as the transactions table</a> > Multiple Choice	1 min 48 sec	2/ 2	✓
Q31	<a href="#">SQL: total no. of transactions in desc order</a> > Multiple Choice	4 min 58 sec	2/ 2	✓
Q32	<a href="#">Price Economics, Data Velocity &amp; Computing</a> > Multiple Choice	1 min 2 sec	2/ 2	✓

QUESTION 1

✔

Correct Answer

Score 10

Social Netwrok Analysis > DbRank

SQL

QUESTION DESCRIPTION

We will use the 'profiles' and 'relations' tables provided in the schema above. The problem statement is to identify mutual friends and family members between users.

**Problem Statement:** Find all pairs of users who are mutual friends or family members.

Find all pairs of users who are mutual friends or family members.

Hint for Solution:

1. Identify the columns to be selected in the query. In this case, the query needs to select the username columns from two instances of the profiles table (p1 and p2) and the type column from the relations table (r1).
2. Identify the tables to be used in the query. In this case, the query needs to join the profiles and relations tables twice, using the foreign key relationships between them.
3. Define the conditions to filter the results. In this case, the query needs to only include relationships of type "friends" or "family", and only those relationships where the type is the same in both directions.
4. Specify the order in which the results should be returned. In this case, the query needs to order the results by the username columns for both users.
5. Put all the steps together to form the complete query.

▼ Schema

profiles			
name	type	constraint	description
id	INT	PRIMARY KEY	Profile ID
username	VARCHAR(255)		Profile username

relations		
name	type	constraint
profile_id	INT	FOREIGN KEY (profile_id => profile
related_profile_id	INT	FOREIGN KEY (related_profile_id => pr
type	ENUM('family','friends','acquaintances')	

▼ Sample Data Tables

profiles
----------

id	username
1	jfarndale0
2	bsyddall1
3	cculkin2

relations		
profile_id	related_profile_id	type
1	3	acquaintances
2	1	family
2	3	acquaintances
3	2	friends

▼ Expected Output

user1	user2	relation_type
alice	bob	friend
carol	alice	family

INTERVIEWER GUIDELINES

```

SET SESSION GROUP_CONCAT_MAX_LEN = 1234567890;
SET @sql = '';
SELECT
    CONCAT( 'SELECT profile, ', GROUP_CONCAT( DISTINCT CONCAT( 'MAX( IF(
related_profile = '', related_profile,
                                                                    '', type,
NULL ) ) AS '', related_profile, ''') ) ORDER
                                                                    BY related_profile ), ' FROM
(', '
SELECT
    p.username AS profile,
    pr.username AS related_profile,
    type
FROM
    relations r
    LEFT JOIN profiles p
        ON r.profile_id = p.id
    LEFT JOIN profiles pr
        ON r.related_profile_id = pr.id
GROUP BY
    r.profile_id,
    r.related_profile_id,
    type
ORDER BY
    profile,
    related_profile,
    type
', ') t ', 'GROUP BY profile ORDER BY profile' )
INTO @sql

```

```

FROM
(
    SELECT
        p.username AS profile,
        pr.username AS related_profile,
        type
    FROM
        relations r
        LEFT JOIN profiles p
            ON r.profile_id = p.id
        LEFT JOIN profiles pr
            ON r.related_profile_id = pr.id
    GROUP BY
        r.profile_id,
        r.related_profile_id,
        type
    ORDER BY
        profile,
        related_profile,
        type
) t;
PREPARE stmt FROM @sql;
EXECUTE stmt;
DEALLOCATE PREPARE stmt;

```

## CANDIDATE ANSWER

Language used: **MySQL**

```

1  /*
2  Enter your query below.
3  Please append a semicolon ";" at the end of the query
4  */
5
6  -- SELECT DISTINCT P1.username AS user1, p2.username AS user2
7  -- FROM profiles p1
8  -- JOIN relations r1 ON p1.id = r1.profile_id
9  -- JOIN profiles p2 ON p2.id = r1.related_profile_id
10 -- JOIN relations r2 ON p2.id = r2.profile_id
11 -- JOIN profiles p3 ON p3.id = r2.related_profile_id
12 -- WHERE r1.type IN ('family', 'friends')
13 -- AND r2.type = r1.type
14 -- AND p1.id < p2.id
15 -- AND p2.id < p3.id
16 -- AND p1.type = p3.type
17 -- ORDER BY p1.username, p2.username;
18
19 SELECT p1.username AS user1, p2.username AS user2, r1.type AS relation_type
20 FROM profiles p1
21 JOIN relations r1 ON p1.id = r1.profile_id
22 JOIN profiles p2 ON p2.id = r1.related_profile_id
23 JOIN relations r2 ON r1.related_profile_id = r2.profile_id AND r1.profile_id
24 = r2.related_profile_id
25 WHERE r1.type IN ('friends', 'family')
26 AND r1.type = r2.type
27
28 ORDER BY user1 ,user2

```

Time taken: **0.05 sec**

## QUESTION 2



Needs Review

Score 2

## Prime Partition &gt; Coding Easy

## QUESTION DESCRIPTION

Given a positive integer  $n$ , find all possible ways to partition  $n$  into two distinct prime numbers. A partition is a pair of prime numbers  $(p, q)$  such that  $p + q = n$ .

Write a Python program that takes the input in the format described below and outputs the distinct partitions of  $n$  into two prime numbers.

**Input Format:**

The input consists of the following lines:

- A single integer  $T$  ( $1 \leq T \leq 100$ ) denoting the number of test cases.
- For each test case, a single line containing a positive integer  $n$  ( $4 \leq n \leq 10^4$ ).

**Output Format:**

For each test case:

- Print the distinct partitions of  $n$  into two prime numbers in ascending order of the first prime number in the partition. Each partition should be printed on a separate line, with the prime numbers separated by a space.
- If there are no possible partitions for a given  $n$ , print -1.

**Sample Input:**

```
2
7
10
```

**Sample Output:**

```
2 5
3 7
```

There are two test cases included in this sample. The only possible partition of 7 into two prime numbers is (2, 5) for the first test case with  $n = 7$ . The possible partitions for the second test case with  $n = 10$  are (3, 7) and (5, 5).

## CANDIDATE ANSWER

The candidate did not manually submit any code. The last compiled version has been auto-submitted and the score you see below is for the auto-submitted version.

Language used: **Python 3**

```

1
2 # Function to check if a number is prime
3 def is_prime(num) :
4     if n < 2:
5         return False
6     for i in range(2, int(num**0.5) + 1):
7         if n % i == 0:
8             return False
9     return True
10
11 # Function to find prime partitions
12 def prime_partitions(n) :
13     partitions = []

```

```
14     for p in range(2, n // 2 + 1):
15         q = n - p
16         if is_prime(p) and is_prime(q):
17             partitions.append((p, q))
18     return partitions
19     #Complete the above program and run the test cases.
20
```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 0	Easy	Sample case	Wrong Answer	0	0.0267 sec	7.98 KB
Testcase 1	Easy	Sample case	Wrong Answer	0	0.0574 sec	8.2 KB
Testcase 2	Easy	Hidden case	Success	2	0.0522 sec	8.08 KB
Testcase 3	Easy	Hidden case	Wrong Answer	0	0.0827 sec	8.27 KB
Testcase 4	Easy	Hidden case	Wrong Answer	0	0.0453 sec	8.23 KB

No Comments

### QUESTION 3



Correct Answer

Score 20

## Numpy Matrix Operations > Coding Medium

### QUESTION DESCRIPTION

#### Problem Description:

You are given two matrices A and B of dimensions  $n \times m$ , where  $n$  represents the number of rows and  $m$  represents the number of columns. Your task is to perform the following operations using numpy:

- Matrix addition ( $A + B$ )
- Element-wise multiplication ( $A * B$ )
- Matrix multiplication ( $A @ B$ ) (If not possible, print "Matrix multiplication not possible.")

Write a Python program that takes the input in the format described below and outputs the result of each operation.

#### Input Format:

The input consists of the following lines:

A single integer  $T$  ( $1 \leq T \leq 10$ ) denoting the number of test cases.

For each test case:

- A single line containing two integers  $n$  and  $m$  ( $1 \leq n, m \leq 100$ ), separated by a space.
- $n$  lines, each containing  $m$  integers (separated by a space), representing the elements of matrix A.
- $n$  lines, each containing  $m$  integers (separated by a space), representing the elements of matrix B.

#### Output Format:

For each test case:

- Print  $n$  lines representing the result of matrix addition ( $A + B$ ).
- Print  $n$  lines representing the result of element-wise multiplication ( $A * B$ ).
- If matrix multiplication is possible, print  $n$  lines representing the result of matrix multiplication ( $A @ B$ ). Otherwise, print "Matrix multiplication not possible."

### CANDIDATE ANSWER

Language used: Python 3


```
1
2 def numpy_operations(n, m, A, B):
3
```

```
4 A = np.array(A)
5 B = np.array(B)
6
7
8 add_res = A+B
9 print_matrix(add_res)
10
11 mul_res = A*B
12 print_matrix(mul_res)
13
14
15 if n==m:
16     matmul_res = A @ B
17     print_matrix(matmul_res)
18 else:
19     print("Matrix multiplication not possible.")
20
21
22
```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 0	Easy	Hidden case	✔ Success	4	0.2136 sec	28.5 KB
Testcase 1	Easy	Sample case	✔ Success	4	0.2548 sec	29.1 KB
Testcase 2	Easy	Hidden case	✔ Success	4	0.5397 sec	29.1 KB
Testcase 3	Easy	Sample case	✔ Success	4	0.2746 sec	28.8 KB
Testcase 4	Easy	Hidden case	✔ Success	4	0.4341 sec	29.1 KB

No Comments

QUESTION 4

  
Correct Answer

Score 20

Sales Performance Analysis > DbRank

DatabaseSQLAggregationSimple Joins

SortingMedium

QUESTION DESCRIPTION

We will use the 'profiles' and 'deals' tables provided in the schema above. The problem statement for this case study is to rank profiles by their total deal amounts.

**Problem Statement:** Find the profiles and their total deal amounts, ranked by total deal amounts in descending order. In case of ties, order by profile ID in ascending order.

▼ Schema

profiles		
name	type	description
id	SMALLINT	unique id, primary key
first_name	VARCHAR(255)	
last_name	VARCHAR(255)	



email	VARCHAR(255)	
-------	--------------	--

deals		
name	type	description
profile_id	SMALLINT	foreign key into profile.id
dt	VARCHAR(19)	Deal datetime
amount	DECIMAL(5,2)	Deal amount

▼ Sample Data Tables

profiles			
id	first_name	last_name	email
1	Wallis	Treadway	<a href="mailto:wtreadway0@senate.gov">wtreadway0@senate.gov</a>
2	Franklin	Blackston	<a href="mailto:fblackston1@parallels.com">fblackston1@parallels.com</a>
3	Honorio	Constant	<a href="mailto:hconstant2@umich.edu">hconstant2@umich.edu</a>
4	Bertine	Hillaby	<a href="mailto:bhillaby3@artisteer.com">bhillaby3@artisteer.com</a>
5	Constance	Knutsen	<a href="mailto:cknutsen4@google.ca">cknutsen4@google.ca</a>

deals		
profile_id	dt	amount
5	2022-05-21 02:44:24	49.10
2	2022-05-22 23:26:59	46.21
1	2022-05-23 09:56:25	58.57
5	2022-05-28 02:38:08	27.81
4	2022-06-04 07:16:27	22.31
4	2022-06-04 14:15:03	36.33
5	2022-06-04 15:03:10	21.41
1	2022-06-07 02:58:06	92.84
4	2022-06-08 05:09:52	24.41
3	2022-06-13 03:28:52	61.55
4	2022-06-16 15:09:39	77.70

5	2022-06-18 16:51:32	58.79
4	2022-06-20 02:55:20	43.61
3	2022-06-22 06:52:10	10.41
1	2022-06-23 04:59:05	6.59
1	2022-06-30 16:11:02	43.07
4	2022-07-05 06:05:28	36.45
5	2022-07-12 07:49:51	14.76
4	2022-07-12 18:58:11	91.61
5	2022-07-14 00:50:45	69.61

#### ▼ Expected Output

id	first_name	last_name	email	total_amount	ranking
5	Bertine	Hillaby	<a href="mailto:bhillaby3@artisteer.com">bhillaby3@artisteer.com</a>	204.36	1
2	Wallis	Treadway	<a href="mailto:wtreadway0@senate.gov">wtreadway0@senate.gov</a>	142.50	2
8	Constance	Knutsen	<a href="mailto:cknutsen4@google.ca">cknutsen4@google.ca</a>	80.20	3

#### INTERVIEWER GUIDELINES

```

SELECT
    first_name,
    last_name,
    email,
    SUM( amount ) AS total
FROM
    deals d
    LEFT JOIN profiles p
        ON p.id = d.profile_id
WHERE
    MONTH( dt ) = 6 AND
    YEAR( dt ) = 2022
GROUP BY
    id,
    first_name,
    last_name,
    email
ORDER BY
    total DESC
LIMIT 3

```

#### CANDIDATE ANSWER

Language used: **MySQL**

- 1 /\*
- 2 Enter your query below.

```

3 Please append a semicolon ";" at the end of the query
4 */
5 WITH deal_summary AS(
6     SELECT p.id, p.first_name, p.last_name, p.email,
7     COALESCE(SUM(d.amount),0)AS total_amount
8     FROM profiles p
9     LEFT JOIN deals d ON p.id = d.profile_id
10    GROUP BY p.id, p.first_name, p.last_name, p.email),
11    ranked_profiles AS(
12        SELECT*, DENSE_RANK() OVER(
13            ORDER BY total_amount DESC, id
14            ASC) AS ranking
15        FROM deal_summary
16    )
17    SELECT id, first_name, last_name, email, total_amount, ranking
18    FROM ranked_profiles
19    ORDER BY ranking;
20

```

Time taken: **0.01 sec**

No Comments

#### QUESTION 5



Correct Answer

Score 0.33

### SQL: Which one of the following > Multiple Choice Easy

#### QUESTION DESCRIPTION

Refer the schema below and the following question:

**Schema:**

accounts			
name	type	constraint	description
id	INT	PRIMARY KEY	Account ID
iban	VARCHAR(255)		Account IBAN

transactions			
name	type	constraint	description
account_id	INT	FOREIGN KEY (account_id => accounts.id)	Account ID
amount	VARCHAR(255)		Transaction amount

Which SQL query would retrieve the next 5 rows from the 'accounts' table after skipping the first 10 rows?

#### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☒ ☐ SELECT \* FROM accounts LIMIT 5 OFFSET 10;
   
☒ ☐ SELECT \* FROM accounts LIMIT 10, 5;

- ☒ SELECT \* FROM accounts OFFSET 10 ROWS FETCH NEXT 5 ROWS ONLY;
- ☐ SELECT \* FROM accounts;

No Comments

#### QUESTION 6



Correct Answer

Score 1

#### SQL - Basic - III > Multiple Choice Easy

##### QUESTION DESCRIPTION

Which SQL command is used to retrieve all data from a table?

##### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☒ SELECT \*
- ☐ SELECT ALL
- ☐ SELECT FROM
- ☐ SELECT TABLE

No Comments

#### QUESTION 7



Correct Answer

Score 1

#### SQL: Normalization > Multiple Choice Easy

##### QUESTION DESCRIPTION

Refer the schema below and the following question:

**Schema:**

accounts			
name	type	constraint	description
id	INT	PRIMARY KEY	Account ID
iban	VARCHAR(255)		Account IBAN

transactions			
name	type	constraint	description
account_id	INT	FOREIGN KEY (account_id => accounts.id)	Account ID
amount	VARCHAR(255)		Transaction amount

Which normal form is represented by the given schema?

### CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ 1NF
- ☐ 2NF
- ☒ 3NF
- ☐ BCNF

No Comments

#### QUESTION 8



Correct Answer

Score 1

### Cloud Computing > Multiple Choice cloud

#### QUESTION DESCRIPTION

What is considered the backbone of cloud computing?

### CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ Internet service providers (ISPs)
- ☐ Global positioning systems (GPS)
- ☐ Content delivery networks (CDNs)
- ☒ Data centers

No Comments

#### QUESTION 9



Wrong Answer

Score 0

### syntax > Multiple Choice Easy

#### QUESTION DESCRIPTION

What is the value of x after executing the following Python code?

```
def mystery(x, y):
    if x > y:
        return x - y
    else:
        return mystery(y - x, x) if y % x else x

result = mystery(121, 484)
```

What is the value of result?

### CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ 11
- ☒ 121

☐ 242  
☐ 363

No Comments

QUESTION 10



Correct Answer

Score 1

Linux - Removing a file > Multiple Choice Linux

QUESTION DESCRIPTION

Which command is used to remove a file in Linux?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ ☐ rm  
☐ ls  
☐ cp  
☐ mv

No Comments

QUESTION 11



Correct Answer

Score 1

Bash : list all running processes > Multiple Choice Linux

QUESTION DESCRIPTION

Which command is used to list all currently running processes in Bash?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ ☐ ps  
☐ kill  
☐ top  
☐ shutdown

No Comments

QUESTION 12



Wrong Answer

Score 0

SUBSTR > Multiple Choice Easy

QUESTION DESCRIPTION

Refer the schema below and the following question:

Schema:

accounts

name	type	constraint	description
id	INT	PRIMARY KEY	Account ID
iban	VARCHAR(255)		Account IBAN

transactions			
name	type	constraint	description
account_id	INT	FOREIGN KEY (account_id => accounts.id)	Account ID
amount	VARCHAR(255)		Transaction amount

Which SQL query would retrieve characters 5 to 8 of the 'iban' column in the 'accounts' table?

#### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ SELECT SUBSTR(iban, 5, 4) FROM accounts;
- ☐ SELECT SUBSTRING(iban, 5, 4) FROM accounts;
- ☐ SELECT SUBSTR(iban, 4, 4) FROM accounts;
- ☒ Both a and b

No Comments

#### QUESTION 13



Correct Answer

Score 1

#### cloud deployment models > Multiple Choice easy

##### QUESTION DESCRIPTION

Which of the following cloud deployment models is best suited for organizations that require a dedicated and isolated environment for sensitive data, but also want to utilize the scalability and cost benefits of the public cloud for less sensitive workloads?

#### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ Public cloud
- ☐ Private cloud
- ☐ Community Cloud
- ☒ Hybrid cloud

No Comments

#### QUESTION 14



Wrong Answer

#### SQL - Basic - V > Multiple Choice Easy

##### QUESTION DESCRIPTION

Score 0

Which SQL command is used to insert new data into a table and retrieve its generated ID?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☒ INSERT INTO

☐ SELECT FROM

☐ INSERT ID

☒ INSERT RETURNING

No Comments

QUESTION 15

Correct Answer

Score 1

AWS global infra > Multiple Choice 

cloud

QUESTION DESCRIPTION

Which of the following is a key component of the AWS Global Infrastructure?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐ Regions

☐ Data centers

☐ Availability zones

☒ All of the above

No Comments

QUESTION 16

Correct Answer

Score 1

Cloud Computing > Multiple Choice 

cloud

QUESTION DESCRIPTION

Which of the following is NOT a benefit of cloud computing?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐ Scalability

☐ Cost savings

☐ Accessibility from anywhere with an internet connection

☒ Enhanced Security risks

No Comments

QUESTION 17

Functions - III > Multiple Choice 

Functions





Correct Answer

Score 1

#### QUESTION DESCRIPTION

Consider the following code:

```
def print_info(name, age, city):  
    print(f"{name} is {age} years old and lives in {city}.")  
  
data = ["Gaurav", 28, "Delhi"]  
print_info(*data)
```

What is the output of the code above?

#### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ Error: Invalid function call
- ☐ Error: Too many arguments
- ☒ Gaurav is 28 years old and lives in Delhi.
- ☐ \*data is 28 years old and lives in London.

No Comments

#### QUESTION 18



Wrong Answer

Score 0

#### SQL: 6th and 10th highest amount > Multiple Choice Easy

#### QUESTION DESCRIPTION

Refer the schema below and the following question:

**Schema:**

accounts			
name	type	constraint	description
id	INT	PRIMARY KEY	Account ID
iban	VARCHAR(255)		Account IBAN

transactions			
name	type	constraint	description
account_id	INT	FOREIGN KEY (account_id => accounts.id)	Account ID
amount	VARCHAR(255)		Transaction amount

Suppose you want to retrieve transactions with the 6th to 10th highest amounts. Which SQL query would achieve this?

### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ SELECT \* FROM transactions ORDER BY amount DESC LIMIT 5 OFFSET 5;
- ☒ SELECT \* FROM transactions ORDER BY amount DESC LIMIT 5, 5;
- ☐ SELECT \* FROM transactions ORDER BY amount DESC OFFSET 5 ROWS FETCH NEXT 5 ROWS ONLY;
- ☒ All of the above

No Comments

#### QUESTION 19



Correct Answer

Score 1

### cloud deployment > Multiple Choice cloud

#### QUESTION DESCRIPTION

It is expected that SBI, a financial services company, will migrate its applications and services to the cloud in order to improve scalability, agility, and cost effectiveness. An analysis of various cloud deployment models, service models, and managed services is being conducted by the company in order to determine the best fit for their requirements. With sensitive customer data, SBI must ensure that their chosen cloud solution provides high levels of security and compliance with industry regulations.

Which cloud deployment model would be most suitable for SBI's requirements, considering their need for security and compliance with industry regulations?

### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ Public cloud
- ☐ Hybrid cloud
- ☒ Private cloud
- ☐ Community cloud

No Comments

#### QUESTION 20



Correct Answer

Score 1

### SQL - Basic - IV > Multiple Choice Easy

#### QUESTION DESCRIPTION

Which SQL command is used to retrieve data from multiple tables?

### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ SELECT DISTINCT
- ☐ SELECT UNION
- ☒ SELECT JOIN

SELECT INTERSECT

No Comments

#### QUESTION 21



Correct Answer

Score 1

### Functions - II > Multiple Choice Functions

#### QUESTION DESCRIPTION

Examine the following code:

```
def multiply(x, y=2):  
    return x * y  
  
result_1 = multiply(3)  
result_2 = multiply(3, 4)
```

What are the values of result\_1 and result\_2?

#### CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ result\_1 = 3, result\_2 = 12
- ☒ result\_1 = 6, result\_2 = 12
- ☐ result\_1 = 6, result\_2 = 8
- ☐ result\_1 = None, result\_2 = 12

No Comments

#### QUESTION 22



Correct Answer

Score 1

### Numpy - 3 > Multiple Choice Easy

#### QUESTION DESCRIPTION

Examine the following code snippet using Numpy:

```
import numpy as np  
  
a = np.array([2, 4, 6, 8, 10])  
result = a[a % 3 == 0]
```

What is the value of result?

#### CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ [2, 4, 6, 8, 10]
- ☐ [3, 6, 9]
- ☒ [6]

No Comments

## QUESTION 23



Wrong Answer

Score 0

View - I > Multiple Choice Easy

## QUESTION DESCRIPTION

Refer the schema below and the following question:

## Schema:

accounts			
name	type	constraint	description
id	INT	PRIMARY KEY	Account ID
iban	VARCHAR(255)		Account IBAN

transactions			
name	type	constraint	description
account_id	INT	FOREIGN KEY (account_id => accounts.id)	Account ID
amount	VARCHAR(255)		Transaction amount

Which SQL statement would create a view displaying the account ID and the total transaction amount for each account?

## CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ CREATE TABLE account\_totals AS  
SELECT account\_id, SUM(amount) AS total\_amount  
FROM transactions  
GROUP BY account\_id;
- ☒ CREATE VIEW account\_totals AS  
SELECT account\_id, SUM(amount) AS total\_amount  
FROM transactions  
GROUP BY account\_id;
- ☐ CREATE VIEW account\_totals AS  
SELECT account\_id, COUNT(amount) AS total\_amount  
FROM transactions  
GROUP BY account\_id;
- ☐ CREATE VIEW account\_totals AS  
SELECT id, SUM(amount) AS total\_amount  
FROM transactions

GROUP BY id;

No Comments

#### QUESTION 24



Correct Answer

Score 1

### Linux distribution > Multiple Choice Linux

#### QUESTION DESCRIPTION

The software development teams at LTIMindtree, a large multinational company, plan to implement a Linux-based solution. Various programming languages and tools are used by the company's developers to work on different projects. In addition to providing support for various development tools, LTIMindtree's IT department needs to ensure that the new Linux environment can be easily installed and configured on their virtual machines.

Which Linux distribution would be most appropriate for LTIMindtree's software development environment, considering their diverse set of developers and requirements?

#### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ Arch Linux
- ☒ Ubuntu
- ☐ Gentoo
- ☐ SUSE Linux Enterprise Server

No Comments

#### QUESTION 25



Correct Answer

Score 2

### Distributed computing - II > Multiple Choice Medium

#### QUESTION DESCRIPTION

##### Introduction:

An e-commerce company, "L&T," wants to optimize its pricing strategy to maximize revenue and stay competitive in the market. The company faces challenges in handling real-time data and making quick pricing decisions. This case study aims to explore how the principles of Price Economics, Data Velocity, and Distributed Computing can be combined to enhance the company's pricing strategies.

##### Price Economics:

L&T needs to understand the factors that affect pricing, such as customer willingness to pay, competitor prices, and the cost of goods sold. Based on these factors, the company can implement dynamic pricing strategies to optimize revenue.

##### Data Velocity:

The company needs to process high-velocity data, including real-time market trends, customer behaviors, and competitor pricing to make informed decisions. Data velocity is crucial in enabling L&T to adapt to market changes quickly and stay competitive.

##### Distributed Computing:

L&T can leverage distributed computing to process vast amounts of data quickly and efficiently. By distributing the workload across multiple nodes, the company can analyze data in real-time and make swift pricing decisions.

##### Implementation:

L&T successfully implements a dynamic pricing system that leverages real-time data analysis through distributed computing. The system captures market trends, competitor pricing, and customer behavior to

adjust product prices on the fly. As a result, the company achieves higher revenue and increased customer satisfaction.

In distributed computing, what is a node?

#### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ A pricing strategy
- ☐ A data storage location
- ☒ A single computer in the network
- ☐ A customer's web browser

No Comments

#### QUESTION 26



Wrong Answer

Score 0

#### Bash Scripts > Multiple Choice Linux

##### QUESTION DESCRIPTION

Using Bash scripts, Gaurav, a systems administrator, is automating various tasks on a Linux server. In order to accomplish the following task, he must create a script:

Which command should Gaurav use to check if a directory exists and create it if it does not exist?

#### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ [ -d /path/to/directory ] || mkdir /path/to/directory
- ☒ mkdir -p /path/to/directory
- ☐ touch /path/to/directory
- ☐ find /path/to/directory || mkdir /path/to/directory

No Comments

#### QUESTION 27



Correct Answer

Score 2

#### Price Economics - II > Multiple Choice cloud

##### QUESTION DESCRIPTION

###### Introduction:

An e-commerce company, "L&T," wants to optimize its pricing strategy to maximize revenue and stay competitive in the market. The company faces challenges in handling real-time data and making quick pricing decisions. This case study aims to explore how the principles of Price Economics, Data Velocity, and Distributed Computing can be combined to enhance the company's pricing strategies.

###### Price Economics:

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###### Data Velocity:

The company needs to process high-velocity data, including real-time market trends, customer behaviors,

and competitor pricing to make informed decisions. Data velocity is crucial in enabling L&T to adapt to market changes quickly and stay competitive.

**Distributed Computing:**

L&T can leverage distributed computing to process vast amounts of data quickly and efficiently. By distributing the workload across multiple nodes, the company can analyze data in real-time and make swift pricing decisions.

**Implementation:**

L&T successfully implements a dynamic pricing system that leverages real-time data analysis through distributed computing. The system captures market trends, competitor pricing, and customer behavior to adjust product prices on the fly. As a result, the company achieves higher revenue and increased customer satisfaction.

Data velocity is essential for L&T's pricing strategy because:

**CANDIDATE ANSWER**

**Options:** (Expected answer indicated with a tick)

- ☐ It helps analyze historical trends
- ☒ It enables real-time data analysis
- ☐ It makes the website load faster
- ☐ It reduces server downtime

No Comments

**QUESTION 28**



Correct Answer

Score 2

**Pricing Strategy** > Multiple Choice cloud

QUESTION DESCRIPTION

**Introduction:**

An e-commerce company, "L&T," wants to optimize its pricing strategy to maximize revenue and stay competitive in the market. The company faces challenges in handling real-time data and making quick pricing decisions. This case study aims to explore how the principles of Price Economics, Data Velocity, and Distributed Computing can be combined to enhance the company's pricing strategies.

**Price Economics:**

L&T needs to understand the factors that affect pricing, such as customer willingness to pay, competitor prices, and the cost of goods sold. Based on these factors, the company can implement dynamic pricing strategies to optimize revenue.

**Data Velocity:**

The company needs to process high-velocity data, including real-time market trends, customer behaviors, and competitor pricing to make informed decisions. Data velocity is crucial in enabling L&T to adapt to market changes quickly and stay competitive.

**Distributed Computing:**

L&T can leverage distributed computing to process vast amounts of data quickly and efficiently. By distributing the workload across multiple nodes, the company can analyze data in real-time and make swift pricing decisions.

**Implementation:**

L&T successfully implements a dynamic pricing system that leverages real-time data analysis through distributed computing. The system captures market trends, competitor pricing, and customer behavior to adjust product prices on the fly. As a result, the company achieves higher revenue and increased customer satisfaction.

What type of data is most important for L&T's dynamic pricing system to analyze?

### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ Historical sales data
- ☒ Real-time market trends and competitor prices
- ☐ Demographic information of customers
- ☐ Product specifications and features

No Comments

#### QUESTION 29



Correct Answer

Score 2

### Pandas > Multiple Choice Medium

#### QUESTION DESCRIPTION

Examine the following code using Pandas:

```
import pandas as pd

data = {
    'Name': ['Alice', 'Bob', 'Carol'],
    'Age': [28, 32, 24],
    'City': ['London', 'Paris', 'New York']
}

df = pd.DataFrame(data)
```

What is the shape of the dataframe df?

### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ (2,2)
- ☐ (2,3)
- ☐ (1,3)
- ☒ (3,3)

No Comments

#### QUESTION 30



Correct Answer

Score 2

### SQL: Create a new table as same structure as the transactions table > Multiple Choice

Medium

#### QUESTION DESCRIPTION

Refer the schema below and the following question:

**Schema:**



accounts			
name	type	constraint	description
id	INT	PRIMARY KEY	Account ID
iban	VARCHAR(255)		Account IBAN

transactions			
name	type	constraint	description
account_id	INT	FOREIGN KEY (account_id => accounts.id)	Account ID
amount	VARCHAR(255)		Transaction amount

Which SQL statement would create a new table 'transactions\_backup' with the same structure as the 'transactions' table, including the foreign key constraint?

#### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ CREATE TABLE transactions\_backup AS  
SELECT \* FROM transactions;
- ☒ CREATE TABLE transactions\_backup LIKE transactions;
- ☐ CREATE TABLE transactions\_backup AS  
SELECT account\_id, amount FROM transactions;
- ☐ CREATE TABLE transactions\_backup (  
account\_id INT,  
amount VARCHAR(255),  
FOREIGN KEY (account\_id) REFERENCES accounts(id)  
);

No Comments

#### QUESTION 31



Correct Answer

Score 2

#### SQL: total no. of transactions in desc order > Multiple Choice Hard

##### QUESTION DESCRIPTION

Refer the schema below and the following question:

**Schema:**

accounts			
name	type	constraint	description
id	INT	PRIMARY KEY	Account ID

iban	VARCHAR(255)	Account IBAN
------	--------------	--------------

transactions			
name	type	constraint	description
account_id	INT	FOREIGN KEY (account_id => accounts.id)	Account ID
amount	VARCHAR(255)		Transaction amount

Which SQL query would retrieve the total number of transactions for each account, ordered by the total number of transactions in descending order?

#### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☒ ☐ SELECT account\_id, COUNT(\*) AS transaction\_count  
FROM transactions  
GROUP BY account\_id  
ORDER BY transaction\_count DESC;
- ☐ SELECT account\_id, SUM(\*) AS transaction\_count  
FROM transactions  
GROUP BY account\_id  
ORDER BY transaction\_count DESC;
- ☐ SELECT account\_id, COUNT(\*) AS transaction\_count  
FROM transactions  
GROUP BY account\_id  
ORDER BY transaction\_count ASC;
- ☐ SELECT account\_id, COUNT(\*) AS transaction\_count  
FROM transactions  
ORDER BY transaction\_count DESC  
GROUP BY account\_id;

No Comments

#### QUESTION 32



Correct Answer

Score 2

### Price Economics, Data Velocity & Computing > Multiple Choice Cloud Computing

#### QUESTION DESCRIPTION

##### Introduction:

An e-commerce company, "L&T," wants to optimize its pricing strategy to maximize revenue and stay competitive in the market. The company faces challenges in handling real-time data and making quick pricing decisions. This case study aims to explore how the principles of Price Economics, Data Velocity, and Distributed Computing can be combined to enhance the company's pricing strategies.

##### Price Economics:

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**Data Velocity:**

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**Distributed Computing:**

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**Implementation:**

L&T successfully implements a dynamic pricing system that leverages real-time data analysis through distributed computing. The system captures market trends, competitor pricing, and customer behavior to adjust product prices on the fly. As a result, the company achieves higher revenue and increased customer satisfaction.

The main goal of combining Price Economics, Data Velocity, and Distributed Computing is to:

**CANDIDATE ANSWER**

**Options:** (Expected answer indicated with a tick)

- ☐ Improve the company's marketing strategies
- ☒ Enhance the company's pricing strategies
- ☐ Increase the company's production capacity
- ☐ Optimize the company's supply chain management

No Comments

**QUESTION 33**

Correct Answer

Score 2

**Functions - IV** > Multiple Choice

Hard

**QUESTION DESCRIPTION**

Analyze the following code snippet:

```
class Circle:
    def __init__(self, radius):
        self.radius = radius
        self.pi = 3.14159

    def calculate_area(self):
        return self.pi * self.radius**2

    def calculate_circumference(self):
        return 2 * self.pi * self.radius

def main():
    radius = 5
    circle = Circle(radius)
    area = circle.calculate_area()
    circumference = circle.calculate_circumference()

    print(f"The area of the circle with radius {radius} is {area:.2f}")
    print(f"The circumference of the circle with radius {radius} is {circumference:.2f}")

if __name__ == "__main__":
    main()
```

What are the values of area and circumference?

#### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☒ ☐ area = 78.53975, circumference = 31.4159
- ☐ area = 78.53975, circumference = 15.70795
- ☐ area = 25.0, circumference = 10.0
- ☐ area = 15.70795, circumference = 31.4159

No Comments

#### QUESTION 34



Correct Answer

Score 2

#### Pricing Strategy impact > Multiple Choice cloud

##### QUESTION DESCRIPTION

###### Introduction:

An e-commerce company, "L&T," wants to optimize its pricing strategy to maximize revenue and stay competitive in the market. The company faces challenges in handling real-time data and making quick pricing decisions. This case study aims to explore how the principles of Price Economics, Data Velocity, and Distributed Computing can be combined to enhance the company's pricing strategies.

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###### Implementation:

L&T successfully implements a dynamic pricing system that leverages real-time data analysis through distributed computing. The system captures market trends, competitor pricing, and customer behavior to adjust product prices on the fly. As a result, the company achieves higher revenue and increased customer satisfaction.

L&T's dynamic pricing system is most likely to result in:

#### CANDIDATE ANSWER

**Options:** (Expected answer indicated with a tick)

- ☐ Lower revenue due to frequent price changes
- ☒ ☐ Increased customer satisfaction and higher revenue
- ☐ Confused customers and decreased sales
- ☐ Constantly decreasing product prices

