

Snowflake interview

26 March 2024 13:44

Scenario:

```
1 use database demo_db;
2 use schema public;
3
4 create or replace table temp1( a number, b string);
5 insert into temp1(a) values (1);
6 insert into temp1 values (2,'Two');
7 commit;
```

Question #1: What is the out of below query ?

Select concat(a, b) as ab from temp1; Or
Select a||b as ab from temp1;

Answer:

Row	AB
1	NULL
2	2Two

Row	AB
1	NULL
2	2 Two

Scenario.

```
16 create or replace table temp2(id varchar);
17 insert into temp2 values('1');
18 insert into temp2 values('2');
19 insert into temp2 values('3');
20 insert into temp2 values('');
21 insert into temp2 values(null);
22 commit;
```

Question #2: What is the out of below queries ?

select count(*) from temp2;

select count(id) from temp2;

Answer:

Row	COUNT(*)
1	5

Row	COUNT(ID)
1	4

Scenario:

```
30 CREATE OR REPLACE SEQUENCE SEQ1;  
31
```

Question #3: What is the out of below queries ?

```
SELECT SEQ1.nextval, SEQ1.nextval;
```

```
SELECT SEQ1.currrval;
```

Answer:

Row	NEXTVAL	NEXTVAL
1	1	2

SQL compilation error: error line 1 at position 7 invalid identifier 'SEQ1.CURRVAL'

Scenario:

```
32  
36 CREATE OR REPLACE TABLE DEPT( deptno number primary key, dname varchar, loc varchar);  
37  
38 INSERT INTO dept(deptno, dname, loc) values (10,'HR','India');  
39 INSERT INTO dept(deptno, dname, loc) values (10,'HR','India');  
40 INSERT INTO dept(dname, loc) values ('HR','India');
```

Question #4: What is the out of below query ?

```
select count(*) from dept;
```

Answer:

Row	COUNT(*)
1	2

NO_DATA_FOUND in all items selected

Snowflake supports defining and maintaining constraints but does not enforce them, except for NOT NULL constraints, which are always enforced.

Question #5: What is the out of below query ?

```
SELECT try_to_number('10'), try_to_number('12-A');
```

Answer:

Row	TRY_TO_NUMBER('10')	TRY_TO_NUMBER('12-A')
1	10	NULL

Scenario:

```
1 use database demo_db;
2 use schema public;
3 SELECT current_user(), current_role();
```

Results Data Preview

Query ID	SQL	82ms	1 rows
Row	CURRENT_USER()	CURRENT_ROLE()	
1	VENKAT	ACCOUNTADMIN	


```
5 Create table test( a number);
```

Results Data Preview

Query ID	SQL	218ms	1 rows
Row	status		
1	Table TEST successfully created.		

Question #1: Who is the owner of above created table TEST ?

Question #1: Who is the owner of above created table TEST ?

Answer:

```
7 SELECT * from information_schema.tables where table_name = 'TEST';
```

Results Data Preview

Query ID	SQL	1.61s	1 rows			
Row	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	TABLE_OWNER	TABLE_TYPE	IS_TRANSACTIONAL
1	DEMO_DB	PUBLIC	TEST	ACCOUNTADMIN	BASE TABLE	NO

Rajak, Bharat (Cognizant) yes

BR

Reply

Scenario:

```
100 CREATE OR REPLACE TABLE TEST ( a number) DATA_RETENTION_TIME_IN_DAYS =<1>;
```

Results Data Preview

Query ID	SQL	300ms	1 rows
Row	status		
1	Table TEST successfully created.		


```
102 SELECT RETENTION_TIME
103 FROM information_schema.tables
104 where table_name = 'TEST';
```

Results Data Preview

Query ID	SQL	4.7s	1 rows
Row	RETENTION_TIME		
1	10		

Question #2: How do you disable the time travel for above table TEST ?

Question #2: How do you disable the time travel for above table TEST ?

```
105 ALTER TABLE TEST SET
106 DATA_RETENTION_TIME_IN_DAYS = <0>;
```

Results Data Preview

Query ID	SQL	112ms	1 rows
Row	status		
1	Statement executed successfully.		


```
102 SELECT RETENTION_TIME
103 FROM information_schema.tables
104 where table_name = 'TEST';
```

Results Data Preview

Query ID	SQL	659ms	1 rows
Row	RETENTION_TIME		
1	0		

If any table time travel want to remove then need to update day_retention_time_in_days=0

Question #3: How do you create a warehouse with maximized mode?

Answer: If both max_cluster_count and min_cluster_count parameters are equal, the warehouse runs in *Maximized* mode.

The screenshot shows a database interface with a query editor and results pane. The query is:

```
108 create or replace warehouse my_wh warehouse_size='x-small'
109 MAX_CLUSTER_COUNT =2
110 MIN_CLUSTER_COUNT =2
111 initially_suspended=true;
112
```

The rows 109 and 110 are highlighted with a red box. The results pane shows:

Results Data Preview

✓ Query ID SQL 202ms 1 rows

Filter result... Copy

Row	status
1	Warehouse MY_WH successfully created.

Rajak, Bharat (Cognizant) this scenario - we can again outside - in case sit near to l

Reply

Question #4: How do you create a warehouse with Auto-scale mode?

Answer: If min_cluster_count is less than max_clustger_count , the warehouse runs in Auto-scale mode.

The screenshot shows a database interface with a query editor and results pane. The query is:

```
108 create or replace warehouse my_wh warehouse_size='x-small'
109 MAX_CLUSTER_COUNT =5
110 MIN_CLUSTER_COUNT =2
111 initially_suspended=true;
112
```

The rows 109 and 110 are highlighted with a red box. The results pane shows:

Results Data Preview

✓ Query ID SQL 340ms 1 rows

Filter result... Copy

Row	status
1	Warehouse MY_WH successfully created.

Scenario:

The screenshot shows a database interface with a query editor and results pane. The query is:

```
145 create or replace table test_boolean( strng_val string, boolean_val boolean);
```

The results pane shows:

Results Data Preview

✓ Query ID SQL 319ms 1 rows

Filter result... Copy

Row	status
1	Table TEST_BOOLEAN successfully created.

146 insert into test_boolean values ('10',10);
147 insert into test_boolean values ('-1', -1);
148 insert into test_boolean values (0, 0);
149 insert into test_boolean values ('on', 'on');
150 insert into test_boolean values ('ON', 'ON');
151 insert into test_boolean values ('off', 'off');
152 insert into test_boolean values ('OFF', 'OFF');
153 insert into test_boolean values ('false', 'false');
154 insert into test_boolean values ('FALSE', FALSE);
155 insert into test_boolean values ('true', true);
156 insert into test_boolean values ('TRUE', 'TRUE');
157 insert into test_boolean values ('T', 'T');
158 insert into test_boolean values ('t', 't');
159 insert into test_boolean values ('F', 'F');
160 insert into test_boolean values ('f', 'f');
161 insert into test_boolean values ('Foo', 'Foo');

Question #5: What are all insert statements will give error while inserting to test_Boolean table?

Query ID SQL 533ms Boolean value 'Foo' is not recognized

165 select * from test_boolean;		
Results Data Preview		
Row	STRNG_VAL	BOOLEAN_VAL
1	10	TRUE
2	-1	TRUE
3	0	FALSE
4	on	TRUE
5	ON	TRUE
6	off	FALSE
7	OFF	FALSE
8	false	FALSE
9	FALSE	FALSE
10	true	TRUE
11	TRUE	TRUE
12	T	TRUE
13	t	TRUE
14	F	FALSE
15	f	FALSE

Scenario:

```
1 use role accountadmin;
2 create warehouse wh12 warehouse_size ='x-small'
3 max_cluster_count=4
4 min_cluster_count=5;
```

Question #1: What is the problem with above create warehouse command?

Answer:

Query ID SQL 162ms Maximum cluster count of warehouse 'WH12' cannot be lower than minimum cluster count

Scenario:

```
create or replace warehouse wh12 warehouse_size ='x-small'
max_cluster_count=12
min_cluster_count=2;
```

Question #2: What is the problem with above create warehouse command?

Answer:

Maximum number of clusters for warehouse 'WH12' exceeded, requested 12 and limit is 10.

```
create or replace warehouse wh12 warehouse_size ='x-small'  
max_cluster_count=10  
min_cluster_count=0;
```

Question #3: What is the problem with above create warehouse command?

Answer:

SQL compilation error: invalid value '0' for property 'min_cluster_count'

Question #1: Is it possible to create snowflake stored procedure with empty body using javascript? If yes, then what would be the output when execute/call that procedure?

Answer:

```
12 CREATE OR REPLACE PROCEDURE prc_test_emptybody_js()  
13 RETURNS string LANGUAGE javascript AS  
14 $$ |  
15 $$;
```

Results Data Preview

✓ Query ID SQL 649ms 1 rows

Filter result... Copy

Row status

1 Function PRC_TEST_EMPTYBODY_JS successfully created.

```
17 call prc_test_emptybody_js();
```

Results Data Preview

✓ Query ID SQL 793ms 1 rows

Filter result... Copy

Row	PRC_TEST_EMPTYBODY_JS
1	NULL

```
19 desc procedure prc_test_emptybody_js();
```

Results Data Preview

✓ Query ID SQL

165ms 7 rows

Filter result...



Copy

Row	property	value
1	signature	()
2	returns	VARCHAR(16777216)
3	language	JAVASCRIPT
4	null handling	CALLED ON NULL INPUT
5	volatility	VOLATILE
6	execute as	OWNER
7	body	SQL is the default language of the procedure, if it provided any Language, then it will only SQL

SQL is the default language of the procedure, if it provided any Language, then it will only SQL

Question #2: Is it possible to create snowflake stored procedure without returning any value from the its body? If yes, then what would be the output when execute/call that procedure? If no, why?

Answer: Yes, We can create , here is the case 1

```
5 CREATE OR REPLACE PROCEDURE PRC_TEST_NORETURN()
6 RETURNS number
7 AS $$ 1 $$;
```

Results Data Preview

✓ Query ID SQL

112ms 1 rows

Filter result...



Copy

Row	status
1	Function PRC_TEST_NORETURN successfully created.

```
9 CALL PRC_TEST_NORETURN();
```

Results Data Preview

✓ Query ID SQL

102ms 1 rows

Filter result...



Copy

Row	PRC_TEST_NORETURN
1	1

Here is the case 2

```
10
11 CREATE OR REPLACE PROCEDURE PRC_TEST_NORETURN_JS()
12 RETURNS string LANGUAGE JAVASCRIPT
13 AS $$
14   "With out return key word from body or definition"
15 $$;
```

Results Data Preview

✓ Query ID SQL 250ms 1 rows

Filter result...

Row	status
1	Function PRC_TEST_NORETURN_JS successfully created.


```
17 call PRC_TEST_NORETURN_JS();
```

Results Data Preview

✓ Query ID SQL 901ms 1 rows

Filter result...

Row	PRC_TEST_NORETURN_JS
1	NULL


```
19 select PROCEDURE_NAME, PROCEDURE_LANGUAGE, PROCEDURE_DEFINITION from information_schema.procedures
20 where procedure_name in ('PRC_TEST_NORETURN', 'PRC_TEST_NORETURN_JS');
```

Results Data Preview Open History

✓ Query ID SQL 2.15s 2 rows

Filter result... Columns ▾

Row	PROCEDURE_NAME	PROCEDURE_LANGUAGE	PROCEDURE_DEFINITION
1	PRC_TEST_NORETURN	SQL	1
2	PRC_TEST_NORETURN_JS	JAVASCRIPT	"With out return key word from body or definition"

Question #3: Is it possible to load historic data files using snowflake Snowpipe from external stages? If yes, then how or No then why?

Answer: Yes, We can load historic data files using snowflake snowpipe by An **ALTER PIPE ... REFRESH** Statement which copies a set of data files staged within the **previous 7 days** to the Snowpipe ingest queue for loading into the target table.

Question #4: Is it possible to change the default value of MAX_CONCURRENCY_LEVEL parameter in snowflake?

Answer: Yes, We can change default value of MAX_CONCURRENCY_LEVEL parameter.

```
32 alter account set MAX_CONCURRENCY_LEVEL =32;
```

Results Data Preview

✓ Query ID SQL 119ms 1 rows

Filter result...

Row	status
1	Statement executed successfully.


```
34 alter warehouse compute_wh set MAX_CONCURRENCY_LEVEL =32;
```

Results Data Preview

✓ Query ID SQL 208ms 1 rows

Filter result...

Row	status
1	Statement executed successfully.

29 show parameters like 'MAX_CONCURRENCY_LEVEL' in account;

30 < 68ms 1 rows

Results Data Preview

Query ID SQL 68ms 1 rows

Filter result... Copy Columns ▾

Row	key	value	default	level	description	type
1	MAX_CONCURRENCY_LEVEL	32	8	ACCOUNT	Maximum number ...	NUMBER

34 show parameters in warehouse compute_wh;

35 < 98ms 3 rows

Results Data Preview

Query ID SQL 98ms 3 rows

Filter result... Copy Columns ▾

Row	key	value	default	level	description	type
1	MAX_CONCURRENCY_LEVEL	32	8	WAREHOUSE	Maximum number o...	NUMBER
2	STATEMENT_QUEUED_TIMEO...	0	0		Timeout in seconds...	NUMBER
3	STATEMENT_TIMEOUT_IN_SE...	172800	172800		Timeout in seconds...	NUMBER

Question #5: What are different types of snowflake parameters?

Answer: Snowflake provides parameters that let you control the behavior of your account, individual user sessions, and objects.
All the parameters have default values, which can be set and then overridden at different levels depending on the parameter type

Parameters Types:

1. Account Parameters
2. Session Parameters
3. Object Parameters

Question #1: In Snowflake, is Truncate command DDL or DML?

Answer: Truncate command is a DML in snowflake so we can execute commit or rollback after truncating data from table.

8 create table t(x_number);
9 insert into t values(1),(2),(3);
10 select count(*) from t;

Results Data Preview

Query ID SQL 360ms 1 rows

Filter result... Copy

Row	COUNT(*)
1	3

12 begin;
13 truncate table t;
14 rollback;
15 select count(*) from t;

Results Data Preview

Query ID SQL 118ms 1 rows

Filter result... Copy

Row	COUNT(*)
1	3

17 begin work;
18 truncate t;
19 commit;
20 select count(*) from t;

Results Data Preview

Query ID SQL 121ms 1 rows

Filter result... Copy

Row	COUNT(*)
1	0

Question #2: What are the different types of stages in snowflake?

Answer: 2 types of stages are present in Snowflake. They are :

- 1) External Stage list @<external_stage_name>
- 2) Internal Stages
 - a) Table Stage list @%<table_name>
 - b) User Stage list @~
 - c) Internal Named Stage list @<external_stage_name>

Question #3: What are all the scaling policies for Multi-Cluster warehouse in Snowflake?

Answer: Snowflake supports the 2 scaling policies: They are:

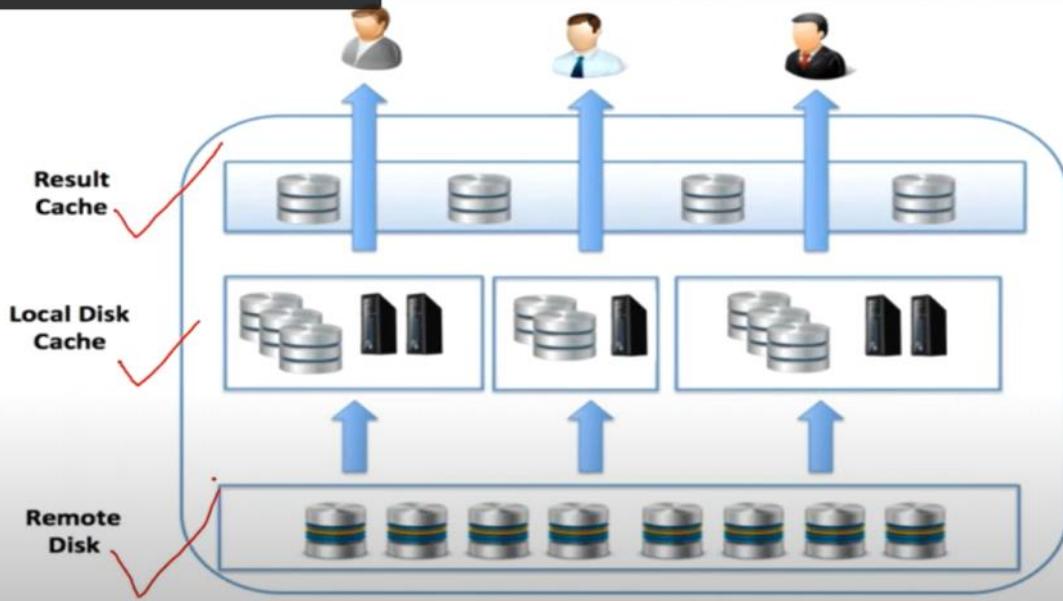
1. Standard Policy (Default)
2. Economy Policy

Policy	Description	Cluster Starts	Cluster Shuts Down
Standard (Default)	Prevents/minimizes queuing by favoring starting additional clusters over conserving credits.	The first cluster starts immediately when either a query is queued <i>or</i> the system detects that there's one more query than the currently-running clusters can execute. Each successive cluster waits to start 20 seconds after the prior one has started. For example, if your warehouse is configured with 10 max clusters, it can take a full 200+ seconds to start all 10 clusters.	After 2 to 3 consecutive successful checks (performed at 1 minute intervals), which determine whether the load on the least-loaded cluster could be redistributed to the other clusters without spinning up the cluster again.
Economy	Conserves credits by favoring keeping running clusters fully-loaded rather than starting additional clusters, which may result in queries being queued and taking longer to complete.	Only if the system estimates there's enough query load to keep the cluster busy for at least 6 minutes.	After 5 to 6 consecutive successful checks (performed at 1 minute intervals), which determine whether the load on the least-loaded cluster could be redistributed to the other clusters without spinning up the cluster again.

Question #4: What are all the different levels/layers of Caching in Snowflake Data Warehouse?

Answer: Snowflake supports 3 different cache layers/levels. They are:

1. **Result Cache:** Which holds the results of every query executed in the past 24 hours. These are available across virtual warehouses, so query results returned to one user is available to any other user on the system who executes the same query, provided the underlying data has not changed.
2. **Local Disk Cache:** Which is used to cache data used by SQL queries. Whenever data is needed for a given query it's retrieved from the Remote Disk storage, and cached in SSD and memory.
3. **Remote Disk:** Which holds the long term storage. This level is responsible for data resilience, which in the case of Amazon Web Services, means 99.99999999% durability. Even in the event of an entire data center failure.



Question #5: What is the command to list the tables and views for which you have access privileges? ✓

Answer: **SHOW OBJECTS** command can be used to list the tables and views for a specified database or schema (or the current database/schema for the session), or your entire account. ✓

```
24 use role accountadmin;
25 show objects in schema private;
```

Results Data Preview

✓ Query ID SQL 82ms 11 rows

Filter result... Copy

Row	created_on	name	database_name	schema_name	kind
1	2021-04-21 ...	EXTTABLE_P...	DEMO_DB	PRIVATE	TABLE
2	2021-04-22 ...	MV1_T	DEMO_DB	PRIVATE	VIEW
3	2021-04-22	MV2_T	DEMO_DB	PRIVATE	VIEW

```
27 use role public;
28 show objects in schema private;
```

Results Data Preview

✓ Query ID SQL 106ms 4 rows

Filter result... Copy

Row	created_on	name	database_name	schema_name	kind
1	2021-04-22 ...	MV1_T	DEMO_DB	PRIVATE	VIEW
2	2021-04-22 ...	SMV_MV1_T	DEMO_DB	PRIVATE	VIEW
3	2021-04-22	SV_SALES_D	DEMO_DB	PRIVATE	VIEW

Answer: INFORMATION_SCHEMA.Tables view can be used to list the tables and views for a specified database or schema (or the current database/schema for the session), or your entire account.

```
30 use role accountadmin; ✓
31 select * from information_schema.tables
32 where table_schema='PRIVATE';
```

Results Data Preview

✓ Query ID SQL 1.03s 11 rows

Filter result...

Row	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME
1	DEMO_DB	PRIVATE	EXTTABLE_P...
2	DEMO_DB	PRIVATE	MV1_T

```
34 use role public;
35 select * from information_schema.tables
36 where table_schema='PRIVATE';
```

Results Data Preview

✓ Query ID SQL 975ms 4 rows

Filter result...

Row	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME
1	DEMO_DB	PRIVATE	MV1_T
2	DEMO_DB	PRIVATE	SMV_MV1_T

Question #1: If you want to scale up a virtual warehouse from S to XL size, do you need to stop or suspend the warehouse?

Answer: A warehouse does not need to be suspended to set or change any of its properties, including size. ✓

Case 1: No queries are running.

```
1 use warehouse wh1;
2 show warehouses like 'wh1';
```

Results Data Preview

✓ Query ID SQL 77ms 1 rows

Filter result...

Row	name	state	type	size	min_cluster_cou	max_cluster_cou	started_clusters
1	WH1	STARTED	STANDARD	X-Small	1	3	1

```
4 alter warehouse wh1 set warehouse_size ='X-LARGE';
5 show warehouses like 'wh1';
```

Results Data Preview

✓ Query ID SQL 74ms 1 rows

Filter result... Columns ▾

Row	name	state	type	size	min_cluster_cou	max_cluster_cou	started_clusters	running
1	WH1	STARTED	STANDARD	X-Large	1	3	1	0

Case 2: Two queries are running.

The screenshot shows two separate Databricks SQL sessions. The top session runs the command `show warehouses like 'wh1';` and returns one row: WH1, STARTED, STANDARD, Large, 2, 8, 2, 2. The bottom session runs `alter warehouse wh1 set warehouse_size = 'Small';` followed by `show warehouses like 'wh1';` and returns one row: WH1, STARTED, STANDARD, Small, 2, 8, 2, 2. Both rows for 'size' and 'running' are highlighted with red boxes.

Row	name	state	type	size	min_cluster_cou	max_cluster_col	started_clusters	running
1	WH1	STARTED	STANDARD	Large	2	8	2	2

Row	name	state	type	size	min_cluster_cou	max_cluster_col	started_clusters	running
1	WH1	STARTED	STANDARD	Small	2	8	2	2

Question #2: What is the Failsafe period for Transient Table?

Answer: Zero or No Fail-safe period .

A table comparing failsafe periods for different table types. The transient table has a failsafe period of 0, while permanent and temporary tables have a failsafe period of 7.

Table Type	Failsafe Period
Transient Table	0
Permanent Table	7
Temporary Table	0

Note:

Transient and temporary tables have no Fail-safe period. As a result, no additional data storage charges are incurred beyond the Time Travel retention period.

Question #3: Assume that I have opened 3 worksheets. Can I maintain separate session for each opened worksheet ?

Answer: Yes

The screenshot shows three separate Snowflake worksheets labeled 'worksheet1', 'worksheet2', and 'worksheet3'. Each worksheet has its own session ID listed in the results table.

Worksheet	Session ID
worksheet1	266240727842834
worksheet2	266240727838742
worksheet3	266240727838746

Question #4: What is the difference between Scaling Up and Scaling Out in Snowflake warehouses?

Answer: Snowflake supports two ways to scale warehouses:

- Scale up by resizing a warehouse
- Scale out by adding clusters to a warehouse (requires Snowflake Enterprise Edition or higher).

The screenshot shows two queries demonstrating warehouse scaling. Both queries return a single row indicating successful execution.

Query ID	SQL	Time	Rows
18	alter warehouse wh1 set warehouse_size = 'LARGE';	61ms	1 rows
12	alter warehouse wh1 set max_cluster_count=8, min_cluster_count=2;	66ms	1 rows

Question #5: What is the FLATTEN in Snowflake?

Answer:

- FLATTEN is a table function that takes a VARIANT, OBJECT, or ARRAY column and produces a lateral view (i.e. an inline view that contains correlation referring to other tables that precede it in the FROM clause).
- Flattens (explodes) compound values into multiple rows.
- FLATTEN can be used to convert semi-structured data to a relational representation.

Row	SEQ	KEY	PATH	INDEX	VALUE	THIS
1	1	NULL	[0]	0	1	[1, 10, 77]
2	1	NULL	[1]	1	10	[1, 10, 77]
3	1	NULL	[2]	2	77	[1, 10, 77]

Question #1: What is the output of the below query?
SELECT GREATEST(3,12,NULL,2);

Answer:

Row	GREATEST(3,12,NULL,2)
1	NULL

Row	GREATEST(3,12,2)
1	12

Results Data Preview		
✗	Query ID	SQL
Numeric value 'ABC' is not recognized		

Scenario: Select * from customer;

CUSTID	CUSTNAME	MATURITY_DATE1	MATURITY_DATE2	MATURITY_DATE3
1	AAA	2021-05-25	NULL	NULL
2	BBB	NULL	2021-06-04	NULL
3	CCC	NULL	NULL	2021-06-14

Question #2: Write a query to get below given output by using snowflake built-in functions?

CUSTID	CUSTNAME	MATURITY_DATE
1	AAA	2021-05-25
2	BBB	2021-06-04
3	CCC	2021-06-14

Answer:

```
SELECT custid, custname,  
coalesce(Maturity_date1,Maturity_date2,Maturity_date3) as  
Maturity_Date  
FROM customer;
```

The screenshot shows a Snowflake query results page. The query is:

```
53 select custid,custname,coalesce(Maturity_date1,Maturity_date2,Maturity_date3) maturity_date from customer;  
54 <|
```

The results table has columns: Row, CUSTID, CUSTNAME, MATURITY_DATE. It contains 3 rows of data:

Row	CUSTID	CUSTNAME	MATURITY_DATE
1	1	AAA	2021-05-25
2	2	BBB	2021-06-04
3	3	CCC	2021-06-14

Question #3: Write a query to get any random date for the current year by using snowflake built-in functions?

Answer:

```
SELECT CASE WHEN extract ('YEAR',sysdate() ) % 4 =0  
            AND extract ('YEAR',sysdate() ) % 400= 0 = TRUE THEN  
                dateadd(day, uniform(0, 366, random()) , date_trunc('Year',sysdate() ))  
            ELSE  
                dateadd(day, uniform(0, 365, random()) , date_trunc('Year',sysdate() ))  
            END random_date_in_current_year;
```

Results		Data Preview
Query ID	SQL	75ms
Filter result...	Copy	1 rows
Row	RANDOM_DATE_IN_CURRENT_YEAR	
1	2021-08-16 00:00:00.000	

Results		Data Preview
Query ID	SQL	73ms
Filter result...	Copy	1 rows
Row	RANDOM_DATE_IN_CURRENT_YEAR	
1	2021-04-17 00:00:00.000	

Results		Data Preview
Query ID	SQL	85ms
Filter result...	Copy	1 rows
Row	RANDOM_DATE_IN_CURRENT_YEAR	
1	2021-03-23 00:00:00.000	

Scenario: Select * from emp;

EMPNO	EMAIL_ID
1	aaa@gmail.com
2	bbbbbb@yahoo.co.in
3	ccccccc@yahoo.com

Question #4: Write a query to get below given output by using snowflake built-in functions?

EMPNO	EMAIL_ID	NAME
1	aaa@gmail.com	aaa
2	bbbbbb@yahoo.co.in	bbbbbb
3	ccccccc@yahoo.com	ccccccc

Answer:

```
SELECT empno, email_id, substr(email_id, 1,
(regexp_instr(email_id, '@',1) -1)) name FROM emp;
```

Row	EMPNO	EMAIL_ID	NAME
1	1	aaa@gmail.com	aaa
2	2	bbbbbb@yahoo.co.in	bbbbbb
3	3	ccccccc@yahoo.com	ccccccc

Question #5: What are all different types of objects in snowflake account?

Answer:

In snowflake account, we can broadly divide the objects into 2 categories. They are:

- 1) Account level objects
- 2) Schema level object

1) Account level objects:

- ✓ Virtual warehouses
- ✓ Roles
- ✓ Users
- ✓ Integrations
- ✓ Databases
- ✓ Data Shares

1) Schema level objects:

✓ Schemas ✓

- ✓ Tables/Views/Secure Views/Mviews/Secure Mviews
- ✓ Constraints
- ✓ Sequences
- ✓ Table Clustering Keys
- ✓ Stages and Fileformats
- ✓ Pipes
- ✓ Stored Procedures/ UDF/UDTF
- ✓ External Tables
- ✓ External Functions
- ✓ Masking Policy

Question #1. Is it possible to suspend a specific cluster in a multi-cluster virtual warehouse rather than whole virtual warehouse is suspended?

Answer: No

```
CREATE WAREHOUSE wh1 WITH WAREHOUSE_SIZE = 'XSMALL' WAREHOUSE_TYPE = 'STANDARD'  
AUTO_SUSPEND = 300 AUTO_RESUME = TRUE MIN_CLUSTER_COUNT = 1 MAX_CLUSTER_COUNT = 3 SCALING_POLICY = 'ECONOMY';  
  
ALTER WAREHOUSE wh1 SUSPEND ;
```

Question #2: When loading data through COPY command it is a requirement that your table and the file from which the data is being loaded should have same order of columns?

```
1 c4,c2,c1,c3  
2 4,3 ,two,One  
3 One, Tow, 3, 4|
```

Column Name	Ordinal	Type	Nullable	Default
C1	1	VARCHAR(16777216)	true	NULL
C2	2	VARCHAR(16777216)	true	NULL
C3	3	NUMBER(38,0)	true	NULL
C4	4	NUMBER(38,0)	true	NULL

Answer: No

```
copy into test_copy from @%load1/data1/  
files=('test_copy.csv')
```

Load Results

Loaded	File	Rows Parsed	Rows Load...	First Error
PARTIALLY_LOADED	test_copy.csv	2	1	Numeric value 'two' is not recognized

Load Results

Loaded	File	Rows Parsed	Rows Load...	First Error
PARTIALLY_LOADED	test_copy.csv	2	1	Numeric value 'two' is not recognized

```
copy into test_copy(c4,c2,c1,c3)
from (select $1,$2,$3,$4 from @%load1/data1/test_copy.csv (file_format => myformat) t);
```

Scenario:

```
create or replace table dim_date_test(year number, month number, month_end_date date);
insert into dim_date_test(year, month) values (2020, 2);
insert into dim_date_test(year, month) values (2021, 2);
insert into dim_date_test(year, month) values (2020, 4);
insert into dim_date_test(year, month) values (2021, 3);
select * from dim_date_test;
```

Row	YEAR	MONTH	MONTH_END_DATE
1	2020	2	NULL
2	2021	2	NULL
3	2020	4	NULL
4	2021	3	NULL

Question #3: Write a update statement to update month_end_date column value as valid month end date by using Year and month columns from dim_date_test table?

Expected Output:

Row	YEAR	MONTH	MONTH_END_DATE
1	2020	2	2020-02-29
2	2021	2	2021-02-28
3	2020	4	2020-04-30
4	2021	3	2021-03-31

Answer:

Update dim_date_test set month_end_date =

```
last_day(to_date('01'||lpad(month,2,'0')||year,'DDMMYYYY'));
```

Row	YEAR	MONTH	MONTH_END_DATE
1	2020	2	2020-02-29
2	2021	2	2021-02-28
3	2020	4	2020-04-30
4	2021	3	2021-03-31

Question #4: The "load metadata" (which maintains which files have already been loaded) for a table expires after how many days?

Answer: 64 Days (LAST_MODIFIED).

Load Metadata:

Snowflake maintains detailed metadata for each table into which data is loaded, including:

- Name of each file from which data was loaded
- File size
- ETag for the file
- Number of rows parsed in the file
- Timestamp of the last load for the file
- Information about any errors encountered in the file during loading

Question #5: what are the different types of streams in snowflake?

Answer: 3 types and they are:

1) Standard : A standard (i.e. delta) table stream tracks all DML changes to the source table, including inserts, updates, and deletes (including table truncates).

2) Append-only : An append-only table stream tracks row inserts only.

3) Insert –only : Supported on external tables only. An insert-only stream tracks row inserts only.

Question #1: What would be the issue with below code?

```
1 CREATE OR REPLACE PROCEDURE SP_TEST(p_acct_id number)
2 RETURNS string
3 LANGUAGE javascript
4 AS
5 $$
6   return P_ACCT_ID;
7 $$;✓
```

Answer: We are going to get the compilation error due to input argument data type number.

Language JAVASCRIPT does not support type 'NUMBER(38,0)' for argument or return type.

JavaScript doesn't support NUMBER datatype, so instead we can use float or string.

Question #2:What would be the below task state?

```
CREATE TABLE mytable (ts timestamp);✓
CREATE TASK mytask
WAREHOUSE = compute_wh
AS
INSERT INTO mytable(ts) VALUES(CURRENT_TIMESTAMP);
```

Row	status
1	Task MYTASK successfully created.

Answer: suspended

```
SHOW TASKS LIKE 'mytask';
DESCRIBE TASK mytask;
```

Question #3: What would be issue with below task while change its state to resume?

```
CREATE TABLE mytable (ts timestamp); ✓  
CREATE TASK mytask  
WAREHOUSE = compute_wh  
AS  
INSERT INTO mytable(ts) VALUES(CURRENT_TIMESTAMP); ✓  
ALTER TASK mytask resume; ✓
```

Answer:

Task should have a SCHEDULE or AFTER to be resumed.

Question #4: What is the output of below query? ⓘ

```
SELECT 1 as a, a+2 as b, a + b as c;
```

Answer:

A	B	C
1	3	4

Question #5: Is there any issue with below function?

```
CREATE OR REPLACE FUNCTION SF_TEST(p_acct_id NUMBER)  
RETURNS NUMBER ✓  
LANGUAGE SQL  
AS  
$$  
    SELECT P_ACCT_ID  
$$;
```

Answer: No issue. We can use number data type as argument in Snowflake SQL Function.

SELECT SF_TEST(1);		
Data Preview		
Server ID	SQL	48ms 1 Rows
Result		Copy
Row	SF_TEST()	
1	1	

Scenario: Assume that you have dev/test/prod snowflake environments and each environment has its own snowflake account?

Dev --> XX75906.ap-south-1

Test --> XX75888.ap-south-1

Prod --> XX75999.ap-south-1

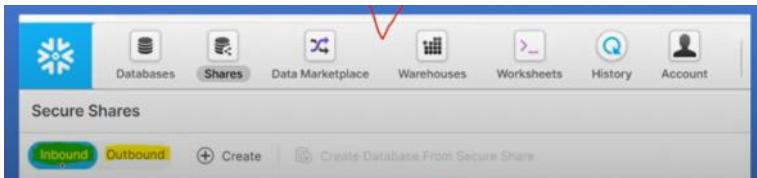
Question #1: How do you compare any particular table structure and its data between Dev vs Test / Dev vs Prod?

Answer: Using any programming language like Python, we can write a script to connect to both accounts and then read table structure and its data. Finally compare table structure and its data to find out any differences.

Question #2: What are different types of shares in snowflake?

Answer: There are 2 types of Secure shares in Snowflake and they are:

1. Outbound Shares
2. Inbound Shares



Question #3: Is it possible to use the Where condition as part of copy command?

Answer: No.

Filtering using a WHERE clause is not supported.

```
40 copy into dept from @mystage where deptno=10;
```

Results Data Preview

Query_ID SQL 16ms

SQL compilation error: syntax error line 1 at position 29 unexpected 'where'.

Even with Snowpipe also not able to use "where" command.

Question #4: What Copy Command options are not supported along with Snowpipe?

Answer: All COPY INTO <table> copy options are supported except for the following:

- FILES = ('file_name1' [, 'file_name2', ...])
- ON_ERROR = ABORT_STATEMENT
- SIZE_LIMIT = num
- PURGE = TRUE | FALSE (i.e. automatic purging while loading)
- FORCE = TRUE | FALSE
- RETURN_FAILED_ONLY = TRUE | FALSE
- VALIDATION_MODE = RETURN_n_ROWS | RETURN_ERRORS | RETURN_ALL_ERRORS

So, these command we cannot use with snowpipe.

Question #5: Does snowflake enforce NOT NULL Constraints on External Tables?

Answer: No. Snowflake does not enforce integrity constraints on external tables. In particular, unlike normal tables, Snowflake does not enforce NOT NULL constraints on external tables.

Scenario:

```
create or replace TABLE DEMO_DB.PUBLIC.DEPT (
    DEPTNO NUMBER(38,0),
    DNAME VARCHAR(16777216),
    LOC VARCHAR(16777216)
);
```

```
CREATE OR REPLACE VIEW DEMO_DB.PUBLIC.vw_dept AS
SELECT * FROM dept;
```

Question #1: Is it possible to perform DML operations on view vw_dept in snowflake?**Answer:** No.

```
update vw_dept set loc ='USA' where deptno=10;
```

SQL compilation error: UPDATE statement's target must be a table

```
delete from vw_dept where deptno=10;
```

SQL compilation error: DELETE statement's target must be a table

```
insert into vw_dept values(10, 'HR', 'USA');
```

SQL compilation error: INSERT statement's target must be a table

```
truncate table vw_dept;
```

SQL compilation error: Object found is of type 'VIEW', not specified type 'TABLE'.

Question #2: Is it possible to create a view without source object (Table/view) in snowflake?

```
create or replace force view force_view AS
select * from without_table;
```

```
create or replace view force_view AS
select * from without_table;
```

Answer: No

SQL compilation error: Object 'DEMO_DB.PUBLIC.WITHOUT_TABLE' does not exist or not authorized.

Question #3: Does external table inherit the file format, if any, in the stage definition?**Answer:** No.

We **must** explicitly specify any file format options for the external table using the FILE_FORMAT parameter.

```

create or replace stage my_csv_stage
file_format = mycsvformat
url = 's3://snowflake-docs';

```

```

create or replace external table myscsv_exttbl(
id number not null as (value:id::number)
, last_name varchar as ( value:last_name::varchar)
) location=@my_csv_stage/tutorials/dataloading/
auto_refresh = true pattern='.*contacts.*[.]csv';

```

SQL compilation error: Missing option(s): file_format

To overcome this issue, we need to use

The screenshot shows the Snowflake UI interface. A query is being run:

```

39 create or replace external table myscsv_exttbl(
40   id number not null as (value:id::number)
41   , last_name varchar as ( value:last_name::varchar)
42 ) location=@my_csv_stage/tutorials/dataloading/
43   auto_refresh = true pattern='.*contacts.*[.]csv'
44   file_format = (type = csv);

```

The results show a single row returned:

Query_ID SQL 681ms 1 rows

Filter result... Copy Row status

1 / 8:05 1 Table MYSCSV_EXTTBL successfully created.

Question #4: What are all the different languages currently supports to create/write UDF's in snowflake?

Answer: Snowflake currently supports the following languages for creating/writing UDFs :

1. SQL
2. JavaScript
3. Java

Three examples of CREATE FUNCTION statements are shown:

- 1. SQL**: A SQL function named add_pi that adds the value of pi to a parameter.
- 2. JavaScript**: A JavaScript function named add5 that adds 5 to a parameter.
- 3. Java**: A Java function named echo_varchar that returns the input string.

```

CREATE FUNCTION add_pi(PARAM_1 FLOAT)
RETURNS FLOAT
LANGUAGE SQL
AS $$
PARAM_1 + 3.1415926::FLOAT
$$;

CREATE OR REPLACE FUNCTION add5(n double)
RETURNS double
LANGUAGE JAVASCRIPT
AS 'return N + 5;';

create or replace function echo_varchar(x varchar)
returns varchar
language JAVA
called on null input
handler='TestFunc.echo_varchar'
target_path='@-/testfunc.jar'
as
'public class TestFunc {
    public static String echo_varchar(String x) {
        return x;
    }
}';

```

Question #5: Is it possible to create a external table using snowflake internal stages?

Answer: No.

External tables support external (i.e. S3, Azure, or GCS) stages only;
internal (i.e. Snowflake) stages are not supported.

Question #1: Is it possible to delete rows from a table using merge statement in snowflake?

Answer: Yes.

```
merge into t1 using t2 on t1.t1key = t2.t2key
when matched and t2.marked = 'D' then delete
when matched then update set marked = t2.marked, isnewstatus = t2.isnewstatus
when not matched then insert (t1key, marked, isnewstatus)
values (t2.t2key, t2.marked, isnewstatus);
```

Row	number of rows inserted	number of rows updated	number of rows deleted
1	1	1	1

Question #2: What is the output of the below select statement ?

```
select object_construct('Key1','Val1', 'Key2');
```

Answer: SQL compilation error.

OBJECT_CONSTRUCT IS A SEMI STRUCTURED FUNCTION

SQL compilation error: error line 1 at position 7 invalid number of arguments for [object_construct], expected 4, got 3

Question #3: What is the output of the below select statement ?

```
select object_construct('Key1','Val1', 'Key1','Val2');
```

Answer:

Duplicate field key 'Key1'

Value can duplicate but key cannot

Question #4: Can we create a task without using warehouse (virtual warehouse) ?

Answer: Yes

```
47 CREATE TASK mytask2
48 SCHEDULE = '5 minute'
49 AS
50 SELECT 'Serverless task';
```

Results Data Preview

Query_ID	SQL	64ms	1 rows
✓			

Filter result... Copy

Row	status
1	Task MYTASK2 successfully created.

But this is not in running phase, this feature is under testing

```
41 CREATE TASK mytask1
42   WAREHOUSE = compute_wh
43   SCHEDULE = '5 minute'
44 AS
45   SELECT 'Task with warehouse compute_wh';
```

Results Data Preview

✓ Query_ID SQL 63ms 1 rows

Filter result... Copy

Row status

1 Task MYTASK1 successfully created.

Question #5: Is it possible to create a standard stream on a Directory Table ?

Answer: Yes

```
create or replace file format my_csv_format
type = csv
;
create or replace stage mystage
directory = (enable = true)
file.format = my_csv_format;
```

```
60 create stream dirstable_mystage_s on stage mystage;
```

Results Data Preview

✓ Query_ID SQL 120ms 1 rows

Filter result... Copy

Row status

1 Stream DIRSTABLE_MYSTAGE_S successfully created.

So, profit to create a stream on directory or a stage is

```
venkat@COMPUTE_MH@DEMO_DB.PUBLIC>put file:///c:/venkat/dept.csv @mystage;
```

source	target	source_size	target_size	source_compression	target_compression	status	message
dept.csv	dept.csv.gz	76	112	NONE	ZIP	UPLOADED	

1 row(s) produced. Time Elapsed: 3.414s

```
venkat@COMPUTE_MH@DEMO_DB.PUBLIC>
```

```
67 alter stage mystage refresh;
68 select * from dirstable_mystage_s;
```

Results Data Preview

✓ Query_ID SQL 222ms 1 rows

Filter result... Copy Columns ▾

Row	RELATIVE_PATH	SIZE	LAST_MODIFIED	MDS	ETAG	FILE_URL	METADATA
1	dept.csv.gz	112	2022-07-28 ...	7eeca7d533...	7eeca7d533...	https://hg23...	INSERT

Question #1: What additional columns get created when you create a stream which includes the same columns as the source object?

Answer: These are the following additional columns.

- 1) METADATA\$ACTION:
- 2) METADATA\$UPDATE
- 3) METADATA\$ROW_ID

Let suppose you are creating one employee table with id, name, salary. So stream will create SIX column with these three additional column.

Scenario: Assume that you have created a table called “CUSTOMER” and loaded data into this table.

select * from DEMO_DB.INFORMATION_SCHEMA.TABLE_STORAGE_METRICS where table_name = 'CUSTOMER' and table_catalog = 'DEMO_DB';						
Row	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	ID	CLONE_GROUP_ID	IS_TRANSIENT
1	DEMO_DB	PUBLIC	CUSTOMER	27660	27660	NO

After this , you have Cloned a table called “CUSTOMER_CLONE” using table “CUSTOMER”.

```
create table customer_clone clone customer;
```

Question #2: What is the CLONE_GROUP_ID for Cloned table “CUSTOMER_CLONE”? ✓

Answer: CLONE_GROUP_ID is same as CUSTOMER table CLONE_GROUP_ID ✓

```
select * from DEMO_DB.INFORMATION_SCHEMA.TABLE_STORAGE_METRICS  
where table_name = 'CUSTOMER_CLONE' and table_catalog = 'DEMO_DB';
```

Row	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME ↑	ID	CLONE_GROUP_ID	IS_TRANSIENT
1	DEMO_DB	PUBLIC	CUSTOMER_CLONE	26642	27660	NO

Question #3: What are the metadata columns for Staged Files?

Answer: There are 2 metadata columns for Staged Files:

1. METADATA\$FILENAME ✓
2. METADATA\$FILE_ROW_NUMBER

These might be internal or external stage, these column value not present in file.

Metadata Columns

Currently, the following metadata columns can be queried or copied into tables:

METADATA\$FILENAME

Name of the staged data file the current row belongs to. Includes the path to the data file in the stage.

METADATA\$FILE_ROW_NUMBER

Row number for each record in the container staged data file.

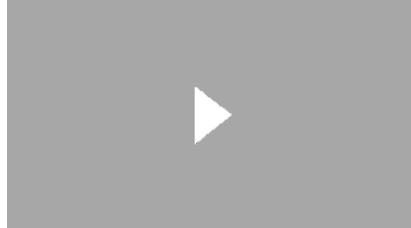
Question #4: What are Managed access schemas in snowflake? ✓

Answer: Managed access schemas centralize privilege management with the schema owner. ✓

In regular schemas, the owner of an object (i.e. the role that has the OWNERSHIP privilege on the object) can grant further privileges on their objects to other roles.

In managed schemas, the schema owner manages all privilege grants, including future grants, on objects in the schema. Object owners retain the OWNERSHIP privileges on the objects; however, only the schema owner can manage privilege grants on the objects to other roles, but has no other privileges (USAGE, SELECT, DROP, etc.) on the objects.

Snowflake DWH



Data Masking in Snowflake

Enjoy your free trial! Visit our documentation to learn more about using Snowflake.

Databases Shares Data Marketplace Warehouses Worksheets History

Abort 1/1 | Saved 17 minutes ago

```
1 wpire
2 use role SYSADMIN;
3
4 use DEMO_DB;
5
6
7 DROP TABLE IF EXISTS DEMO_DB.PUBLIC.employee_info;
8
9 create or replace table DEMO_DB.PUBLIC.employee_info(employee_id number,
10   dept varchar(10),
11   salary number,
12   manager_id number);
13
14 -- insert values into employee table
15 insert into DEMO_DB.PUBLIC.employee_info values(1, '2020-09-01', 'HR', 40000, 4,
16   (2, '2020-09-01', 'Technical', 100000, 9),
17   (3, '2020-09-01', 'Marketing', 50000, 5,
18   (4, '2020-09-01', 'HR', 20000, 5),
19   (5, '2020-09-01', 'HR', 35000, 9),
20
21   (5, '2020-09-01', 'HR', 35000, 9),
22   (6, '2021-09-01', 'Technical', 100000, 4),
23   (7, '2021-09-01', 'Marketing', 100000, 1);
24
25 insert into DEMO_DB.PUBLIC.employee_info values
26   (8, '2021-09-01', 'R&D', 20000, 230);
27
28
29 select * from DEMO_DB.PUBLIC.employee_info;
30
31
32 USE ROLE ACCOUNTADMIN;
33
34 --Currently Snowflake does not support different input output datatype for Masking Policy
35 create or replace masking policy sensitive_info_masking_numbers as (val STRING) returns STRING ->
36   case
37     when current_role() in ('ACCOUNTADMIN') then val
38     else '*****'
39
40
41 USE ROLE ACCOUNTADMIN;
42
43 --Currently Snowflake does not support different input output datatype for Masking Policy
44 create or replace masking policy sensitive_info_masking_numbers as (val NUMBER) returns STRING ->
45   case
46     when current_role() in ('ACCOUNTADMIN') then val
47     else '*****'
48
49
50 create or replace masking policy sensitive_info_masking_numbers as (val NUMBER) returns STRING ->
51   case
52     when current_role() in ('ACCOUNTADMIN') then to_char(val)
53     else '*****'
54
55
56 -- apply masking policy to a table column I
57 ALTER TABLE IF EXISTS DEMO_DB.PUBLIC.employee_info MODIFY COLUMN dept SET MASKING POLICY sensitive_info_masking_numbers;
58
59 select * from DEMO_DB.PUBLIC.employee_info ;
60
61
62 use role SYSADMIN;
63
64 SELECT * from DEMO_DB.PUBLIC.employee_info;
65
66 Create or replace view DEMO_DB.PUBLIC.employee_set as select * from DEMO_DB.PUBLIC.employee_info;
67
68 select * from DEMO_DB.PUBLIC.employee_set;
69
70 use role ACCOUNTADMIN;
71
72 --Describe Masking Policy
73 DESC MASKING POLICY sensitive_info_masking_numbers;
```

```

68 --Describe Masking Policy
69
70 DESC MASKING POLICY sensitive_info_masking_numbers;
71
72
73 --RECREATE MASKING POLICY
74 create or replace masking policy sensitive_info_masking_numbers as (val STRING) returns STRING ->
75 case
76   when current_role() not in ('ACCOUNTADMIN') then val
77   else '*****'
78 end;
79
80 --UNSET MASKING POLICY
81
82 ALTER TABLE IF EXISTS DEMO_DB.PUBLIC.employee_info MODIFY COLUMN dept UNSET MASKING POLICY;

```

Results Data Preview

Query ID SQL 85ms

L compilation error: Policy SENSITIVE_INFO_MASKING_NUMBERS cannot be dropped/replaced as it is associated with one or more entities.

Question #1: What is the output of below query?

```

select 0 partNumber, split_part('111.222.333', '.', 0) union
select 1 partNumber, split_part('111.222.333', '.', 1) union
select 2 partNumber, split_part('111.222.333', '.', 2) union
select 3 partNumber, split_part('111.222.333', '.', 3) union
select 4 partNumber, split_part('111.222.333', '.', 4);

```

Answer:

Filter result...		
Row	PARTNUMBER	SPLIT_PART('111.222.333', '.', 0)
1	0	111
2	1	111
3	2	222
4	3	333
5	4	

Scenario:

Filter result...			
Row	name	size	md5
1	azure://saforsnowflake.blob.core.windows.net/landing/dept.csv	90	739c96a48a28c0ec33d9...
2	azure://saforsnowflake.blob.core.windows.net/landing/dept1.csv	108	a05d1d4c4dfa572b60f31...
3	azure://saforsnowflake.blob.core.windows.net/landing/dept_20220801.csv	108	a05d1d4c4dfa572b60f31...
4	azure://saforsnowflake.blob.core.windows.net/landing/dept_20220802.csv	112	14acb73d3496e7336885...

```

6 create or replace external table dept_ext_tbl (
7   date_part date as to_date(substr(split_part(split_part(metadata$filename,'.',2),'.',1), 1, 8), 'YYYYMMDD'),
8   timestamp as (value:time::timestamp), deptno varchar as (value:c1::varchar),
9   dname varchar as (value:c2::varchar), loc varchar as (value:c3::varchar)
10 ) partition by (date_part) location=@my_azure_stage_opt1
11 auto_refresh = false file_format=(type=csv skip_header =1);

```

Results Data Preview

Filter result...		
Row	status	
1	Table DEPT_EXT_TBL successfully created.	

Question #2: What is the output of below query?

Alter external table dept_ext_tbl refresh;

Answer:

```
12  
13 alter external table dept_ext_tbl refresh;  
14
```

Results Data Preview

✓ Query_ID SQL 1.72s 2 rows

Filter result... Copy

Row	file	status	description
1	dept1.csv	REGISTER_FAILED	File registration failed: Error evaluating partition column DATE_PART.
2	dept.csv	REGISTER_FAILED	File registration failed: Error evaluating partition column DATE_PART.

Scenario:

```
1 use role sysadmin;  
2 create database db1; ✓
```

```
5 SELECT current_database();  
6
```

Results Data Preview

✓ Query_ID SQL 48ms 1 rows

Filter result... Copy

Row	CURRENT_DATABASE()
1	DB1

```
7 create database db2;
```

Results Data Preview

✓ Query_ID SQL 103ms 1 rows

Filter result... Copy

Row	status
1	Database DB2 successfully created.

Question #3: What is the current database for this session?

Answer:

```
8 SELECT current_database();
```

Results Data Preview

✓ Query_ID SQL 37ms 1 rows

Filter result... Copy

Row	CURRENT_DATABASE()
1	DB2

Question #4: What is the output of below query ?

```
select date_from_parts(2022, 2, 1) dt1,  
date_from_parts(2022, 2, 0) dt2,  
date_from_parts(2022, 2, -1) dt3,  
date_from_parts(2022, -1, -1) dt4;
```

Answer:

Row	DT1	DT2	DT3	DT4
1	2022-02-01	2022-01-31	2022-01-30	2021-10-30

Question #5: What is the output of below queries ?

```
select system$wait(10);
```

```
CALL system$wait(10);
```

Answer:

Row	SYSTEM\$WAIT
1	waited 10 seconds

Row	SYSTEM\$WAIT
1	waited 10 seconds

Scenario: Assume that there are 2 tables - CUSTOMER with 100 rows and LINEITEM with 0 rows in snowflake database.

COUNT(*)
100

COUNT(*)
0

Question #1: What is the output of below query?

```
SELECT COUNT(*) FROM demo_db1.public.customer CROSS  
JOIN demo_db1.public.lineitem;
```

Answer: 0

COUNT(*)
0

Question #2: Is the below query valid or Invalid?

```
SELECT deptno,count(*) from  
demo_db1.public.emp1 group by all;
```

Answer: Yes. It is a valid query.

DEPTNO	COUNT(*)
1	10
2	30
3	20

The screenshot shows the 'SQL Updates' section of the Snowflake documentation. On the left, there's a sidebar with links like 'Releases', 'What's New', 'Recent Releases' (listing versions 7.32 through 7.22), 'Previous Releases', 'Behavior Changes', 'Deprecated Features', 'Preview Features', 'Performance Improvements', and 'Clients, Drivers, and Libraries'. The main content area is titled 'New SQL Functions' and discusses the addition of the 'ALL' keyword in GROUP BY clauses. It includes a table comparing 'Context Functions (Session)' and 'CURRENT_ORGANIZATION_NAME'. Below this, it explains the new 'ALL' keyword and provides a sample SQL query:

```
SELECT state, city, SUM(retail_price * quantity) AS gross_revenue
FROM sales
GROUP BY state, city;
```

Question #3: Is it possible to send email notifications from snowflake?

Answer: Yes. We can send email notifications from snowflake using the `SYSTEM$SEND_EMAIL` stored procedure .

```
CREATE NOTIFICATION INTEGRATION my_email_int
  TYPE=EMAIL
  ENABLED=TRUE
  ALLOWED_RECIPIENTS=('first.last@example.com','first2.last2@example.com');
```

```
CALL SYSTEM$SEND_EMAIL(
    'my_email_int',
    'first.last@example.com, first2.last2@example.com',
    'Email Alert: Task A has finished.',
    'Task A has successfully finished.\nStart Time: 10:10:32\nEnd Time: 12:15:45\nTotal Reco
);
```

Question #4: What are the metadata column names that can be queried or copied into tables?

Answer:

This screenshot shows the 'Metadata Columns' section. It lists several columns that can be queried or copied into tables:

- METADATASFILENAME**: Name of the staged data file the current row belongs to. Includes the path to the data file in the stage.
- METADATASFILE_ROW_NUMBER**: Row number for each record in the staged data file.
- METADATASFILE_CONTENT_KEY**: Checksum of the staged data file the current row belongs to.
- METADATASFILE_LAST_MODIFIED**: Last modified timestamp of the staged data file the current row belongs to. Returned as TIMESTAMP_NTZ.
- METADATASSTART_SCAN_TIME**: Start timestamp of operation for each record in the staged data file. Returned as TIMESTAMP_LTZ.

Question #5: Do we need to use a warehouse to run the below query?

SELECT MAX(SAL) FROM demo_db1.public.emp1;

Answer: No

The screenshot shows a Snowflake SQL editor with the following code:

```
281 select current_warehouse();
282 alter warehouse compute_wh suspend;
283
284
285 SELECT MAX(SAL) FROM demo_db1.public.emp1;
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
```

The results pane shows:

MAX(SAL)
5000.00

Query Details: Query duration 73ms.

Snowflake uses result cache instead of WH.

Scenario: Assume that you have created a sequence S1 just now in your snowflake database.

The screenshot shows a SQL editor with the following command:

```
5 CREATE OR REPLACE SEQUENCE DEMO_DB.PUBLIC.S1 START >1 INCREMENT >1;
```

The results pane shows:

status
Sequence S1 successfully created.

Query Details: Query duration 73ms.

Question #1: What is the output of below query?

**SELECT DEMO_DB.PUBLIC.S1.NEXTVAL,
DEMO_DB.PUBLIC.S1.NEXTVAL;**

Answer:

The screenshot shows a SQL editor with the following command:

```
6 | SELECT DEMO_DB.PUBLIC.S1.NEXTVAL, DEMO_DB.PUBLIC.S1.NEXTVAL;
```

The results pane shows:

NEXTVAL	NEXTVAL_2
1	2

Question #2: Write a query to print numbers 1 to 100 in snowflake?

Answer: There are multiple ways to write a query that prints the numbers 1 to 100.

Here are some ways :

The left screenshot shows a query using seq4() to generate 100 rows:

```
8 | SELECT seq4() +1 AS number
9 | FROM TABLE(GENERATOR(ROWCOUNT => 100));
```

The results pane shows:

NUMBER
94
95
96
97
98
99
100

The right screenshot shows a query using LATERAL and ARRAY_TO_STRING to generate 100 rows:

```
16 | select value FROM
17 | LATERAL SPLIT_TO_TABLE(ARRAY_TO_STRING(
18 |     ARRAY_GENERATE_RANGE(1, 101), ','), ',');
```

The results pane shows:

VALUE
96
97
98
99
100

```

24 WITH RECURSIVE numbers (num) AS (
25   SELECT 1 as num
26   UNION ALL
27   SELECT num + 1 as num
28   FROM numbers
29   WHERE num < 100 )
30   SELECT * FROM numbers;

```

↳ Results ↗ Chart

...	NUM
96	96
97	97
98	98
99	99
100	100

Question #3: Do we need to use a warehouse to run the below query?

`SELECT MAX(ENAME) FROM DEMO_DB.PUBLIC.EMP;`

Answer: Yes

```

183 ALTER SESSION SET USE_CACHED_RESULT=False;
184 SELECT CURRENT_WAREHOUSE();
185 SHOW WAREHOUSES Like '%COMPUTE_WH%';
186 ALTER WAREHOUSE COMPUTE_WH SUSPEND;
187 SELECT MAX(ENAME) FROM DEMO_DB.PUBLIC.EMP;
188 | SHOW WAREHOUSES Like '%COMPUTE_WH%';

```

↳ Results ↗ Chart

name	state	type	size	min_cluster_count
1 COMPUTE_WH	STARTED	STANDARD	X-Small	1

Scenario : Assume that you have created table emp and inserted some rows into table as mentioned below.

```

191 DESC TABLE DEMO_DB.PUBLIC.EMP;
192

```

↳ Results ↗ Chart

name	type	kind	null?	default
1 ENAME	VARCHAR(10)	COLUMN	Y	null
2 JOB	VARCHAR(9)	COLUMN	Y	null
3 MGR	NUMBER(4,0)	COLUMN	Y	null
4 HIREDATE	DATE	COLUMN	Y	null
5 SAL	VARCHAR(16777216)	COLUMN	Y	null
6 COMM	NUMBER(7,2)	COLUMN	Y	null
7 DEPTNO	NUMBER(2,0)	COLUMN	Y	null

```

193 | SELECT COUNT(*) FROM DEMO_DB.PUBLIC.EMP;
194 |
195 | 191 | SELECT DISTINCT SAL FROM EMP;
196 |
197 | 192 | SELECT DISTINCT SAL FROM EMP;

```

↳ Results ↗ Chart

COUNT(*)
4

↳ Results ↗ Chart

SAL
1 5000
2 2850
3 2450
4 2975

Question #4 : Is it possible to change the data type of SAL column from varchar to number(30,2) ?

Answer: Yes, However directly altering not possible

```

194 ALTER TABLE DEMO_DB.PUBLIC.EMP ALTER COLUMN SAL NUMBER(30,2);
195

```

↳ Results ↗ Chart

⚠

cannot change column SAL from type VARCHAR(16777216) to NUMBER(30,2)

```

199
200 ALTER TABLE DEMO_DB.PUBLIC.EMP RENAME COLUMN SAL TO SAL_RN;
201 ALTER TABLE DEMO_DB.PUBLIC.EMP ADD COLUMN SAL NUMBER(30,2);
202 UPDATE DEMO_DB.PUBLIC.EMP SET SAL = SAL_RN;
203 ALTER TABLE DEMO_DB.PUBLIC.EMP DROP COLUMN SAL_RN;

```

Question #5: Is ON_ERROR Copy Option Supports All File Formats for the COPY INTO <table> command with either parsing or transformation errors?

Answer: Yes.

7.25 - Jul 25-26, 2023 7.24 - Jul 19-20, 2023 7.23 - Jul 10-12, 2023 7.22 - Jul 05-06, 2023 Previous Releases 2023 Releases Summit - Jun 26-29, 2023 7.21 - Jun 19-22, 2023 7.20 - Jun 14-15, 2023 7.19 - Jun 07-08, 2023 7.18 - May 31-Jun 01, 2023 May 2023 April 2023 March 2023 February 2023 January 2023	<h3>Data Loading Updates</h3> <h4>ON_ERROR Copy Option Supports All File Formats</h4> <p>With this release, the ON_ERROR copy option for the COPY INTO <table> command consistently supports all file formats with either parsing or transformation errors.</p> <p>Previously, the ON_ERROR values worked as expected only for structured data files (CSV, TSV, etc.) with either parsing or transformation errors. However, semi-structured data files (JSON, Avro, ORC, Parquet, or XML) did not support the same behavior semantics as structured data files for the following ON_ERROR values: CONTINUE, SKIP_FILE_<num>, or SKIP_FILE_<num>%.</p> <p>Currently, the ON_ERROR values work as expected and are consistent for all structured and semi-structured files, including, CSV, TSV, JSON, Avro, ORC, Parquet, or XML.</p> <p>For more information, refer to Copy Options (copyOptions).</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Question #1: Is it possible to change schema from regular schema to managed schema in snowflake?

Answer: Yes.

```
1 CREATE SCHEMA DEMO_DB.SCH1;
2
3
4 ALTER SCHEMA DEMO_DB.SCH1 ENABLE MANAGED ACCESS;
```

↳ Results ↳ Chart

status
1 Statement executed successfully.

Query Details Query duration

Question #2: Write a query to print all the dates from the current year.

Answer: There are multiple ways to write a query that prints the dates from the current year.

Here are some ways :

```
34 WITH RECURSIVE numbers (num) AS (
35   SELECT 1 as num
36   UNION ALL
37   SELECT num + 1 as num
38   FROM numbers
39   WHERE num < DAYOFYEAR(dateadd('YEAR',1,(trunc(current_date,'YEAR')))-1)
40   SELECT trunc(current_date,'YEAR') + num-1 ALL_DATES FROM NUMBERS;
...  
360
361
362
363
364
365
```

↳ Results ↳ Chart

ALL_DATES
2023-12-26
2023-12-27
2023-12-28
2023-12-29
2023-12-30
2023-12-31

```
42   SELECT trunc(current_date,'YEAR')
43     + seq4() AS number
44   FROM TABLE(GENERATOR(ROWCOUNT =>
45     DAYOFYEAR(dateadd(
46       'YEAR',1,(trunc(current_date,'YEAR')))-1)));
47  
362
363
364
```

↳ Results ↳ Chart

NUMBER
2023-12-28
2023-12-29
2023-12-30

Question #3: Can we create an external stage with 2 different locations?

Answer: No.

```
59 CREATE STAGE my_ext_stage1
60   URL= ('s3://load/files/','s3://Load/files_2/')
61 CREDENTIALS=(AWS_KEY_ID='1a2b3c' AWS_SECRET_KEY='4x5y6z');
```

↳ Results ↗ Chart

002007 (0A000): SQL compilation error:

More than one location (2 locations) specified for stage area.

We can create stage integration more than 1 location.

Scenario : Assume that you have created 2 tables with same name but with different table types. One is a temporary table and the other one is a transient table, and you have inserted 2 rows as mentioned below.

```
CREATE OR REPLACE TEMPORARY TABLE DEMO_DB.PUBLIC.mytable (id NUMBER, creation_date DATE);
CREATE OR REPLACE TRANSIENT TABLE DEMO_DB.PUBLIC.mytable (id NUMBER, creation_date DATE);
insert into DEMO_DB.PUBLIC.mytable values (1 ,current_date());
insert into DEMO_DB.PUBLIC.mytable values (2 ,current_date());
```

107 | SELECT * FROM DEMO_DB.PUBLIC.mytable;

↳ Results ↗ Chart

ID	CREATION_DATE
1	2023-09-29
2	2023-09-29

Question #4 : If you retrieve the rows using a SELECT statement, from what table will the rows come from?

Answer: The rows will be retrieved from the TEMPORARY table.

```
112 | select table_name, table_type,is_transient, row_count
113   from information_schema.tables
114  where table_name = upper('mytable') and row_count > 0;
```

↳ Results ↗ Chart

TABLE_NAME	TABLE_TYPE	IS_TRANSIENT	ROW_COUNT
MYTABLE	LOCAL TEMPORARY	null	2

Question #5: Explain how to get the list of columns which are used as part of primary key constraint for the given table?

Answer: As we know that we can get all columns from information_schema.columns view .

We can get only constraint name from information_schema.table_constraints view.

So we have to use the desc <table_table> and then use RESULT_SCAN with LAST_QUERY_ID.

```

76     create or replace table demo_db.public.test1 col1 number,
77         col2 number, col3 number, col4 string
78     , primary key (col1, col3);
79
80     desc table demo_db.public.test;
81
82     SELECT "name" as pk_column_list FROM (
83     SELECT * FROM TABLE(RESULT_SCAN(LAST_QUERY_ID()))
84     WHERE "primary key" = 'Y';
85

```

↳ Results ~ Chart

PK_COLUMN_LIST
COL1
COL3

Scenario :

```

create or replace table demo_db.public.orders(order_id number, order_date date);
insert into demo_db.public.orders values(1,'2023-09-01');
insert into demo_db.public.orders values(2,'2023-09-01');
insert into demo_db.public.orders values(2,'2023-09-03');
insert into demo_db.public.orders values(3,'2023-09-10');
insert into demo_db.public.orders values(3,'2023-09-12');
insert into demo_db.public.orders values(3,'2023-09-15');

16    select * from demo_db.public.orders;
17

```

↳ Results ~ Chart

ORDER_ID	ORDER_DATE
1	2023-09-01
2	2023-09-01
3	2023-09-03
4	2023-09-10
5	2023-09-12
6	2023-09-15

Only 1 row for order_id : 1

2 rows for order_id : 2 and days in difference between min and max of order date : 2

3 rows for order_id : 3 and days in difference between min and max of order date : 5

Question #1 : Write a query to get the below output using the demo_db.public.orders table mentioned in previous slide.

	ORDER_ID	ORDER_DATE	MIN_ORDER_DATE	MAX_ORDER_DATE	NEW_ORDER_DATE
1	1	2023-09-01	2023-09-01	2023-09-01	2023-09-01
2	2	2023-09-01	2023-09-01	2023-09-03	2023-09-01
3	2	2023-09-01	2023-09-01	2023-09-03	2023-09-02
4	2	2023-09-01	2023-09-01	2023-09-03	2023-09-03
5	3	2023-09-10	2023-09-10	2023-09-15	2023-09-10
6	3	2023-09-10	2023-09-10	2023-09-15	2023-09-11
7	3	2023-09-10	2023-09-10	2023-09-15	2023-09-12
8	3	2023-09-10	2023-09-10	2023-09-15	2023-09-13
9	3	2023-09-10	2023-09-10	2023-09-15	2023-09-14
10	3	2023-09-10	2023-09-10	2023-09-15	2023-09-15

Answer : Here is the query to get the expected output.

```

WITH a AS (
    SELECT order_id, MIN(order_date) as min_order_date, MAX(order_date) as max_order_date
    , ARRAY_GENERATE_RANGE(0,DATEDIFF(day,min_order_date,max_order_date+1)) as days
    FROM demo_db.public.orders group by all
)
SELECT a.order_id, a.min_order_date order_date, min_order_date, max_order_date
    ,min_order_date + to_number(t.value) as new_order_date
FROM a, TABLE(FLATEN(a.days)) t;

```

Note : This is one of the way to get the expected output. You can write same in other ways also.

Question #2: Is it possible to apply Row Access Policy/ Masking Policy on VIRTUAL Column in snowflake?

Answer: No.

The screenshot shows two panels. The left panel displays the results of a 'desc table' command for table T1, showing two columns: I (COLUMN) and CALC (VIRTUAL). The right panel shows the execution of an 'alter table' command to add a row access policy to the CALC column, which fails with the error: '003557 (0A000): SQL compilation error: Row access policy cannot be attached to a VIRTUAL_COLUMN column.'

The screenshot shows the execution of an 'alter table' command to modify column CALC and set its masking policy to mp_int, which fails with the error: '003557 (0A000): SQL compilation error: Masking policy cannot be attached to a VIRTUAL_COLUMN column.'

Question #3: Is it possible to apply Row Access Policy and Masking Policy on same Column in snowflake?

Answer: No.

The screenshot shows two panels. The left panel shows an attempt to add a row access policy to column I, which fails with the error: 'Column 'I' cannot be used as policy argument because it is masked by another policy.' The right panel shows an attempt to modify column I and set its masking policy to mp_int, which also fails with the error: 'Column 'I' cannot be masked because it is used as argument by one or more masking/row-access policies.'

Question #4: How many email notifications can we define for a given snowflake account?

Answer: 10.

We can define a maximum of 10 email notification integrations for a given account.

If more than 10, will get error

SQL compilation error: Value for parameter integrations of type=email exceeds maximum allowable value (10).

Question #5: How to get the list of primary keys for the specified table, or for all tables in the current or specified schema, or for all tables in the current or specified database, or for all tables in the current account?

Answer:

```
show primary keys;
show primary keys in account;
show primary keys in database;
show primary keys in database my_database;
show primary keys in schema;
show primary keys in schema my_schema;
show primary keys in schema my_database.my_schema;
show primary keys in my_table;
show primary keys in my_database.my_schema.my_table;
```

```
64 show primary keys in database;
65 | SELECT * FROM table(RESULT_SCAN(LAST_QUERY_ID()));
66
67
68
```

↳ Results ↳ Chart

database_name	schema_name	table_name	column_name	... key_sequence	constraint_name
1 DEMO_DB	PUBLIC	DEPT	DEPTNO	1	PK_DEPT
2 DEMO_DB	PUBLIC	EMP	EMPNO	1	PK_EMP
3 DEMO_DB	PUBLIC	EMP1	EMPNO	1	PK_EMP
4 DEMO_DB	PUBLIC	TEST	COL1	1	SYS_CONSTRAINT_52
5 DEMO_DB	PUBLIC	TEST	COL3	2	SYS_CONSTRAINT_52

Scenario : Please read the following statements.

```
3
4 | CREATE OR REPLACE TRANSIENT DATABASE test_db
5 | DEFAULT_DDL_COLLATION = 'en_ci'
```

↳ Results ↳ Chart

status
1 Database TEST_DB successfully created.


```
6
7 | create schema if not exists test_db.sch1
```

↳ Results ↳ Chart

status
Schema SCH1 successfully created.


```
9 | create or replace table test_db.sch1.t1 (a number, b string);
```

↳ Results ↳ Chart

status
1 Table T1 successfully created.

```
10
11 | insert into test_db.sch1.t1 values(1,'One'),(2,'Two');
12
```

↳ Results ↳ Chart

number of rows inserted
1
2

Question #1 : What is the output of the below query?

select a, regexp_like(b,'o') from test_db.sch1.t1;✓

Answer :

```
15 | select a, regexp_like(b,'o') from test_db.sch1.t1;
16 |
↳ Results  ~ Chart
```

002401 (0A000): SQL compilation error: error line 1 at position 10
Function REGEXP_LIKE does not support collation.

Scenario : Please read the following statements.

```
create or replace table test_db.sch1.customer(custid number , cname varchar);
insert into customer values ( 1, 'aaa');✓

create or replace view test_db.sch1.vw_customer
as select * from test_db.sch1.customer;✓
```

```
28 |
29 | select * from test_db.sch1.vw_customer;
30 |
↳ Results  ~ Chart
```

CUSTID	CNAME
1	aaa

```
31 | alter table test_db.sch1.customer add (address varchar);
32 |
33 |
↳ Results  ~ Chart
```

status
1 Statement executed successfully.

Question #2 : What is the output of the below query?

select * from test_db.sch1.vw_customer;

Answer :

```
33 | select * from test_db.sch1.vw_customer;
34 |
35 |
↳ Results  ~ Chart
```

⚠ View definition for 'TEST_DB.SCH1.VW_CUSTOMER' declared 2 column(s), but view query produces 3 column(s).

Question #3: Can we perform insert, update,delete and Undrop operations on a dynamic table in snowflake?

Answer: No.

The image contains four separate screenshots from a Snowflake interface, each showing a failed SQL query with a yellow warning icon and an error message:

- Query 16: `insert into public.names(id, first_name, last_name) values (1, 'aa', 'bb');` - Error: SQL Compilation error: Invalid Operation INSERT on Dynamic Table
- Query 17: `update public.names set first_name = 'aaaa' where id = 1;` - Error: SQL Compilation error: Invalid Operation UPDATE on Dynamic Table
- Query 18: `delete from public.names;` - Error: SQL Compilation error: Invalid Operation DELETE on Dynamic Table
- Query 19: `undrop dynamic table public.names;` - Error: 000002 (0A000): Unsupported feature 'UNDROP' not supported for objects of type DYNAMIC_TABLE.

Scenario : Please read the following statements.

```
create or replace table public.stg_names (id number, fname varchar, lname varchar);
create or replace stream public.names_s on table public.stg_names;
```

A screenshot of the Snowflake interface showing the results of a query:

```
| select * from public.names_s; ✓
```

The results table shows the following columns: ID, FNAME, LNAME, METADATA\$ACTION, METADATA\$ISUPDATE, and METAD. The message "Query produced no results" is displayed below the table.

A screenshot of the Snowflake interface showing the results of a query:

```
| 46  create or replace table public.stg_names (id number, fname varchar, lname varchar);
| 47 .
```

The results table shows the status of the table creation:

status
Table STG_NAMES successfully created.

Question #4: What is going to happen when you run the below query?

Select * from public.names_s;

Answer:

A screenshot of the Snowflake interface showing the results of a query:

```
| select * from public.names_s; ✓
```

The results table shows a yellow warning icon and the following error message:

Base table 'DEV_DB.PUBLIC.STG_NAMES' dropped, cannot read from stream 'NAMES_S' in line 1 position 15.

