ASSIGNMENT
(TEMP TABLES AND TABLE VARIABLES)

1. What are Temporary Tables in SQL Server and its type?

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1. Temporary tables are just like permanent tables .
2. We can perform all the operations with a temp table like a permanent table.
3. Temporary Tables are Created in TempDB and are automatically deleted as soon as the last connection is terminated.
4. Temporary Tables help us to store and process intermediate results.
5. Temporary tables are very useful when we need to store temporary data.
6. Types of temporary table
   a. ***Local temporary table***-Local Temp Table is available only for the session that has created it and automatically dropped when the connection that has created it, is closed.
   b. ***Global temporary table***- It is visible to all connections and Dropped when the last connection referencing the table is closed

2. Can you create foreign key constraints on temporary tables?

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We cannot use foreign key constraints on temporary tables directly.

3. What is the storage location of a table variable and temp tables?

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Temporary tables-
Table variables are stored in the temporary database(tempdb) and are automatically dropped when the session or transaction ends.

Table variable-
It is stored in memory, which makes it faster and more efficient

4. **Write a SQL query to copy data of a table named 'Company' to a temp table.**

```sql
--4.1)
SELECT * INTO #temp_company
FROM COMPANY


SELECT * FROM #temp_company
```

	ID	NAME	LOCATION	INTERVIEW_DATE
1	C001	MICROSOFT	BANGALORE	2020-08-01
2	C002	AMAZON	CHENNAI	2020-09-10
3	C003	FLIPKART	BANGALORE	2020-09-15
4	C004	HONEYWELL	HYDERABAD	2020-10-30
5	C005	ACCENTURE	CHENNAI	2020-11-30
6	C006	WIPRO	NOIDA	2020-12-31

1. **Write a SQL query to display Name of the company which set Interview date after 2020-09-01 on above temp table.**

```sql
--4.1)
SELECT NAME
FROM #temp_company
WHERE INTERVIEW_DATE > '2020-09-01'
```

	NAME
1	AMAZON
2	FLIPKART
3	HONEYWELL
4	ACCENTURE
5	WIPRO

2. **Write a SQL query which displays list of companies conducted interview in month of September on above temp table.**

```sql
--4.2)
SELECT *
FROM #temp_company
WHERE INTERVIEW_DATE BETWEEN '2020-09-01' AND '2020-09-30'
```

	ID	NAME	LOCATION	INTERVIEW_DATE
1	C002	AMAZON	CHENNAI	2020-09-10
2	C003	FLIPKART	BANGALORE	2020-09-15

5. What is the difference between Table Variable and Temp Table?

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Temporary tables-
1. Temporary tables are physical objects that are stored in the tempdb database
2. It acts as the normal table and can have constraints, and indexes just like normal tables.
3. Accessible throughout the session in case of local temp table. And accessible to other session in case of global temp table

Table variable-
1. Table variables are logical objects that are stored in memory.
2. It acts like a variable and exists for a particular batch and it gets dropped once it comes out of the batch.
3. Accessible within the current batch.

6. Write a SQL query to declare a table variable and insert values as given below.

STUDENT			
ID	NAME	DEPARTMENT	CGPA
S001	ARUN	CS	8
S002	GITA	CS	7.5
S003	KUMAR	IT	6
S004	ROHIT	IT	8.5
S005	YAMUNA	ECE	9
S006	YOGESH	ECE	9

1. Write a SQL query to get Details of Students in only IT and ECE department on above table variable.

```sql
--6)
DECLARE @student_table_variable TABLE (
ID VARCHAR(10) PRIMARY KEY NOT NULL,
NAME VARCHAR(30) ,
DEPARTMENT VARCHAR(30),
CGPA DECIMAL(2,1)
)

INSERT INTO @student_table_variable
VALUES
('S001','ARUN','CS',8),
('S002','GITA','CS',7.5),
('S003','KUMAR','IT',6),
('S004','ROHIT','IT',8.5),
('S005','YAMUNA','ECE',9),
('S006','YOGESH','ECE',9)

--6.1)
SELECT *
FROM @student_table_variable
WHERE DEPARTMENT IN ('IT','ECE')
```
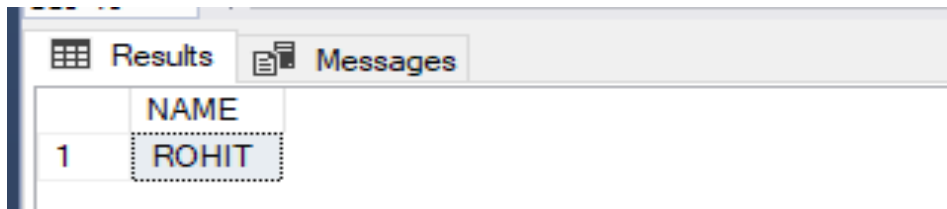
Results | **Messages**

	ID	NAME	DEPARTMENT	CGPA
1	S003	KUMAR	IT	6.0
2	S004	ROHIT	IT	8.5
3	S005	YAMUNA	ECE	9.0
4	S006	YOGESH	ECE	9.0

2. **Write a SQL query to get the student name who has second highest CGPA.**

```sql
--6)
DECLARE @student_table_variable TABLE (
ID VARCHAR(10) PRIMARY KEY NOT NULL,
NAME VARCHAR(30) ,
DEPARTMENT VARCHAR(30),
CGPA DECIMAL(2,1)
)

INSERT INTO @student_table_variable
VALUES
('S001','ARUN','CS',8),
('S002','GITA','CS',7.5),
('S003','KUMAR','IT',6),
('S004','ROHIT','IT',8.5),
('S005','YAMUNA','ECE',9),
('S006','YOGESH','ECE',9)

--6.2)
SELECT S1.NAME
FROM @student_table_variable S1
WHERE 2=(
        SELECT COUNT(DISTINCT S2.CGPA)
        FROM @student_table_variable S2
        WHERE S2.CGPA>=S1.CGPA   )
```

	Results	Messages

	NAME
1	ROHIT

7. Can you create a Table variable schema by using the SELECT INTO command?

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No, we cannot create table variable schema using SELECT INTO command because the SELECT INTO command is used to create a new table from an existing table and table variables are declared using the DECLARE statement