

Exercise : DATE Functions

Q1 : Add 6 months to each employee's hire date using DATEADD(). Used to add / subtract

Expected columns: emp_id, name, hire_date, hire_plus_6_months

Table 1 : Employees

emp_id	name	hire_date
1	Alice	2020-01-15
2	Bob	2021-06-10
3	Charlie	2023-03-22

```
SELECT emp_id,  
       name,  
       hire_date,  
       DATEADD(MONTH, 6, hire_date) AS hire_plus_6_months,  
FROM employees;
```

Return:

Employees			
emp_id	name	hire_date	hire_plus_6_months
1	Alice	2020-01-15	2020-07-15
2	Bob	2021-06-10	2021-12-10
3	Charlie	2023-03-22	2023-09-22

Q2 : Students Use DATE DIFF

student_id	name	dob
101	Maya	2005-08-10
102	Ethan	2004-12-01
103	Sienna	2006-03-15

```

SELECT student_id,
       name,
       dob,
       DATEDIFF(DAY, dob, CURRENT_DATE) AS age-
       in_days
FROM Students;

```

Return:

Students		DATEDIFF (how long / how much)	
student_id	name	dob	age_in_days
101	Maya	2005-08-10	7400
102	Ethan	2004-12-01	7024
103	Sienna	2006-03-15	7157

Q3: Find how many days are left until each event using DATEDIFF()

Expected columns: events_id, event_name, days_remaining.

Table 3 : Events

event_id	event_name	event_date
1	Seminar	2024-06-15
2	Workshop	2025-09-01
3	Hackathon	2025-01-20

```

SELECT event_id,
       event_name,
       event_date,
       DATEDIFF(DAY, CURRENT_DATE, event_date) AS
       days_remaining
FROM events;

```

Return:

Events		- Negative as days already happened
event_id	event_name	days-remaining
1	Seminar	- 120
2	Workshop	- 40
3	Hackathon	- 266

Q4: Calculate the number of days between issue_date and due_date.

Exp col : invoice_id, issue_date, due_date, days-between.

Table 4 : Invoices

invoice_id	issue_date	due_date
501	2025-03-10	2025-03-25
502	2025-04-01	2025-04-15
503	2025-04-10	2025-04-20

SELECT invoice_id,
 issue_date,
 due_date,
 DATE DIFF (DAY, issue_date, due_date) AS days-between
 FROM invoices;

Return :

Invoices			
Invoice-id	issue_date	due_date	days-between
501	2025-03-10	2025-03-25	15
502	2025-04-01	2025-04-15	14
503	2025-04-10	2025-04-20	10

Q5: Format start_date as 'Month yy yy' using TO_CHAR().

Expected columns : course-id-name, formatted-date

Table 5: Courses

course-id	name	start-date
201	SQL Basics	2025-05-01
202	Python	2025-06-01

SELECT course-id,

name, (2025-05-01) 05 2025
TO_CHAR(start-date, 'Month yy yy') As formatted
TO_CHAR ('2025-06-01', '06 , 2025')

FROM Courses;

Return :

Courses		
course-id	name	formatted-date
201	SQL Basics	May 2025
202	Python	June 2025

Q6: Create full date from parts using DATE_FROM_PARTS().

Expt col : member-id, full_start_date

Table 6: Memberships

member-id	start-year	start-month	start-day
1	2023	5	10
2	2023	11	25

SELECT member-id,

DATE_FROM_PARTS(start-year, start-month, start-day) As full_start_date,

FROM Memberships,

Return :

Membership	full_start_date
member_id 1	2023-09-10
2	2022-11-29

Question 7 : Sub-Extend renewal_date by 1 year & using DATEADD().

Expt Col : sub_id , plan , extended_renewal_date

Table 7 : subscriptions

sub_id	plan	renewal_date
11	Basic	2025-01-01
12	Platinum	2026-03-15

```
SELECT sub_id,
       plan,
       DATEADD(year, 1, renewal_date) AS extended_renewal_date
  FROM subscriptions;
```

Return :

sub_id	plan	extended_renewal_date
11	Basic	2026-01-01
12	Premium	2026-03-15

Q8 : Show current date and difference from order_date

Use CURRENT_DATE and DATEDIFF()

Expt Col : order_id , order_date , today_date , days_since_order

Table 8 : Orders

order_id	order_date
1001	2025-04-15
1002	2025-04-10

```

SELECT order_id,
       order_date,
       CURRENT_DATE AS today_date,
       DATEDIFF(DAY, order_date, CURRENT_DATE) AS
       days_since_order,
FROM Orders;
Return Orders

```

order_id	order_date	today_date	days_since_order
1001	2025-04-15	2025-10-13	181
1002	2025-04-10	2025-10-13	186

Q9: TSQL Extract the year from training_date using DATE_PART() or EXTRACT().
 Expected columns: training_id, topic, training_year

Table 9 : Trainings

training_id	topic	training_date
1	Safety	2025-01-10
2	Compliance	2025-02-20

```

SELECT training_id,
       topic,
       EXTRACT(YEAR FROM training_date) AS training-
       year
FROM trainings;

```

Returns : Trainings

training-id	topic	training-year
1	Safety	2025
2	Compliance	2025

Q10 : Extract hour and minute from published-on.

Expected columns : post-id , title , hour-published , minute-published.

Table 10 : Blog-Posts

post-id	title	published-on
1	SQL Tips	2025-04-01 10:15:00
2	Data Cleaning	2025-04-12 16:45:00

SELECT post-id ,
title ,

EXTRACT (HOUR FROM published-on) AS hour-published ,
EXTRACT (MINUTE FROM published-on) AS minute-published ,
FROM Blog-Posts ;

Return Blog-Posts

post-id	title	hour-published	minute-published
1	SQL Tips	10	15
2	Data Cleaning	16	45

Question 11 : Calculate days left until license expiry using DATEDIFF() and toy today's date .

Expected Columns : driver-id , license-expiry , days-left

SELECT dri

DRIVERS

driver-id	license-expiry
301	2025 - 08 - 10
302	2023 - 12 - 31

```

SELECT driver_id,
       license_expiry, '2025-10-13'
       DATEDIFF(DAY, CURRENT_DATE, license_expiry)
       As days_left
FROM drivers;

```

Returns: Drivers

driver_id	license_expiry	days_left
301	2025-08-10	-63
302	2023-12-31	-651

Q12 : Display the current timestamp and calculate seconds since the message was sent.

Expected columns : message_id, sent_timestamp, current_timestamp, seconds_since_sent

Table 12 : Messages

message_id	sent_timestamp
1	2025-04-19 09:32:45
2	2025-04-18 23:59:59

```

SELECT message_id,
       sent_timestamp,
       CURRENT_TIMESTAMP As current_timestamp,
       DATEDIFF(SECOND, sent_timestamp, CURRENT_TIMESTAMP)
       As seconds_since_sent,
FROM Messages;

```

Returns: Messages

message_id	sent_timestamp	current_timestamp	seconds_since_sent
1	2025-04-19 09:32:45	2025-10-13 21:00:00	17,277,135
2	2025-04-18 23:59:59	2025-10-13 21:00:00	17,311,441

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Q13 : Add 15 days to return_date using DATEADD()
 to show restock_date.
 Expected columns: return_id, return_date, restock_date

Table 13 : Returns

return_id	return_date
q01	2025-04-05
q02	2025-04-01

SELECT return_id,
 return_date,
 DATEADD(DAY, 15, return_date) AS restock_date
 FROM returns;

Output: Returns

return_id	return_date	restock_date
q01	2025-04-05	2025-04-20
q02	2025-04-01	2025-04-16

Q14 : Convert assigned_on to date using TO_DATE()
 (if it's stored as string)

Exp. col : assign_id, assigned_on_date

Table 14 : Assignments

assign_id	assigned_on
1	2025-03-01
2	2025-03-05

```

SELECT assign_id,
       TO_DATE(assign_on, 'YYYY-MM-DD') AS
       assigned_on_date
FROM Assignments;

```

Return : Assignments

assign_id	assigned_on_date
1	2025-03-01
2	2025-03-02

Q15 : Convert scheduled_time to formatted string like
 April 19, 2025 at 02:00PM using TO_CHAR()
Exp col : meeting_id , formatted_meeting_time

Table 15 : Meetings

meeting_id	scheduled_time
1	2025-04-19 14:00:00
2	2025-04-19 04:30:00

```

SELECT meeting_id,
       TO_CHAR(scheduled_time, 'Month DD, YYYY "at" '
               HH12:MI AM') AS formatted_meeting_time,
FROM meetings;

```

Return : Meetings

meeting_id	formatted_meeting_time
1	April 19, 2025 at 02:00 PM
2	April 19, 2025 at 04:30 AM