

BrightLight Tutorials

Data Analytics

Exercise: DATE Functions

Instructions:

- Write answers on paper with a pen.
 - Draw tables of the final outcome.
 - In the SELECT statement, choose relevant columns to display, if not specified.
 - Scan the completed work into a PDF file and email to:
rofhiwa@brightlighttutorials.co.za
 - Use the provided tables and write SQL queries to solve each question.
 - Apply SQL date functions where needed.
 - Ensure your output matches the **expected columns** provided for each task.
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Table 1: Employees

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

Q1. Add 6 months to each employee's hire date using DATEADD().

Expected Columns: emp_id, name, hire_date, hire_plus_6_months

Table 2: Students

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

Q2. Use DATEDIFF() to find age in days from dob to today.

Expected Columns: student_id, name, age_in_days

Table 3: Events

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

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

Expected Columns: event_id, event_name, days_remaining

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

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

Expected Columns: invoice_id, issue_date, due_date, days_between

Table 5: Courses

course_id	name	start_date
201	SQL Basics	2025-05-01
202	Python	2025-06-01

Q5. Format start_date as 'Month YYYY' using TO_CHAR().

Expected Columns: course_id, name, formatted_date

Table 6: Memberships

member_id	start_year	start_month	start_day
1	2023	5	10
2	2022	11	25

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

Expected Columns: member_id, full_start_date

Table 7: Subscriptions

sub_id	plan	renewal_date
11	Basic	2025-01-01
12	Premium	2025-03-15

Q7. Extend each renewal_date by 1 year using DATEADD().

Expected Columns: sub_id, plan, extended_renewal_date

Table 8: Orders

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

**Q8. Show current date and difference from order_date.
Use CURRENT_DATE and DATEDIFF().**

Expected Columns: order_id, order_date, today_date, days_since_order

Table 9: Trainings

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

Q9. Extract the year from training_date using DATE_PART() or EXTRACT().

Expected Columns: training_id, topic, training_year

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

Q10. Extract hour and minute from published_on.

Expected Columns: post_id, title, hour_published, minute_published

Table 11: Drivers

driver_id	license_expiry
301	2025-08-10
302	2023-12-31

Q11. Calculate days left until license expiry using DATEDIFF() and today's date.

Expected Columns: driver_id, license_expiry, days_left

Table 12: Messages

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

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 13: Returns

return_id	return_date
901	2025-04-05
902	2025-04-01

Q13. Add 15 days to return_date using DATEADD() to show restock_date.

Expected Columns: return_id, return_date, restock_date

Table 14: Assignments

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

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

Expected Columns: assign_id, assigned_on_date

Table 15: Meetings

meeting_id	scheduled_time
1	2025-04-19 14:00:00
2	2025-04-19 09:30:00

Q15. Convert scheduled_time to formatted string like 'April 19, 2025 at 2:00 PM' using TO_CHAR().

Expected Columns: meeting_id, formatted_meeting_time