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HHA 507

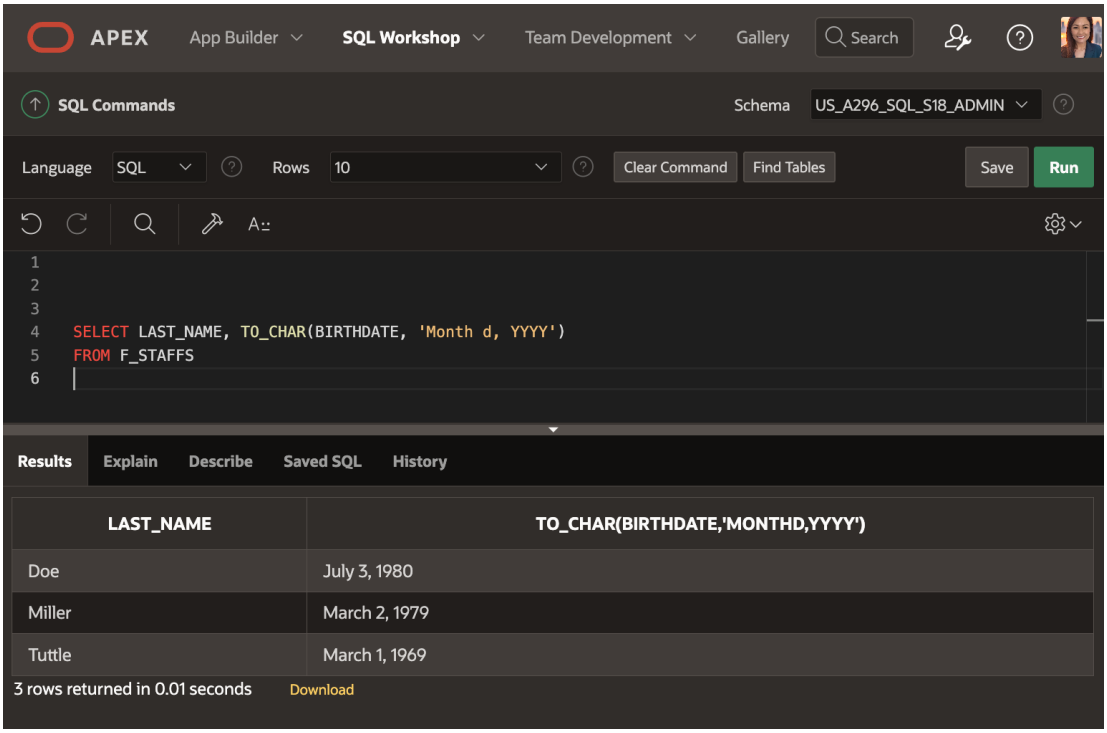
SQL Database Programming: Section 5-1: Conversion Functions

Vocabulary

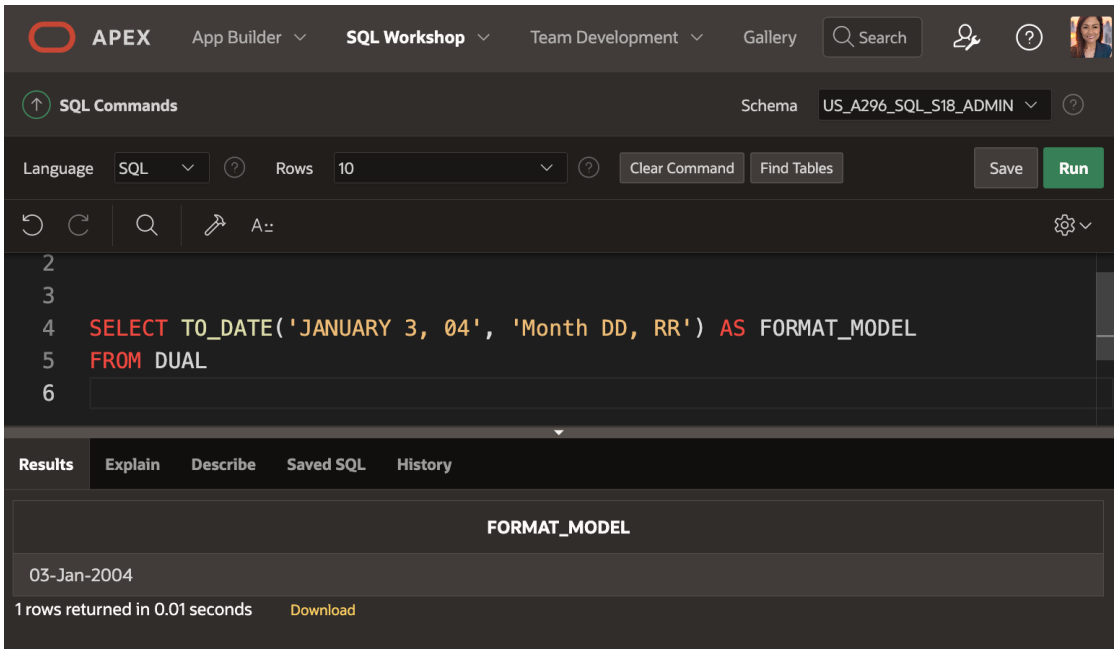
CHAR	Used for text and character data of fixed length, including numbers, dashes, and special characters.
fm element	Used to remove padded blanks or to suppress leading zeros.
Conversion	Functions that convert a value from one data type to another.
NUMBER	Used to store variable-length numeric data.
VARCHAR2	Used for character data of variable length, including numbers, special characters, and dashes.
DATE	Used for date and time values.
TO_CHAR	Converts dates or numbers to character strings with optional formatting.
RR/YY date format	Century value depends on the specified year and the last two digits of the current year
TO_NUMBER	Converts a character string containing digits to a number with optional formatting
DD	Numeric day of the month
TO_DATE	Converts a character string representing a date to a date value with optional formatting

Try It / Solve It

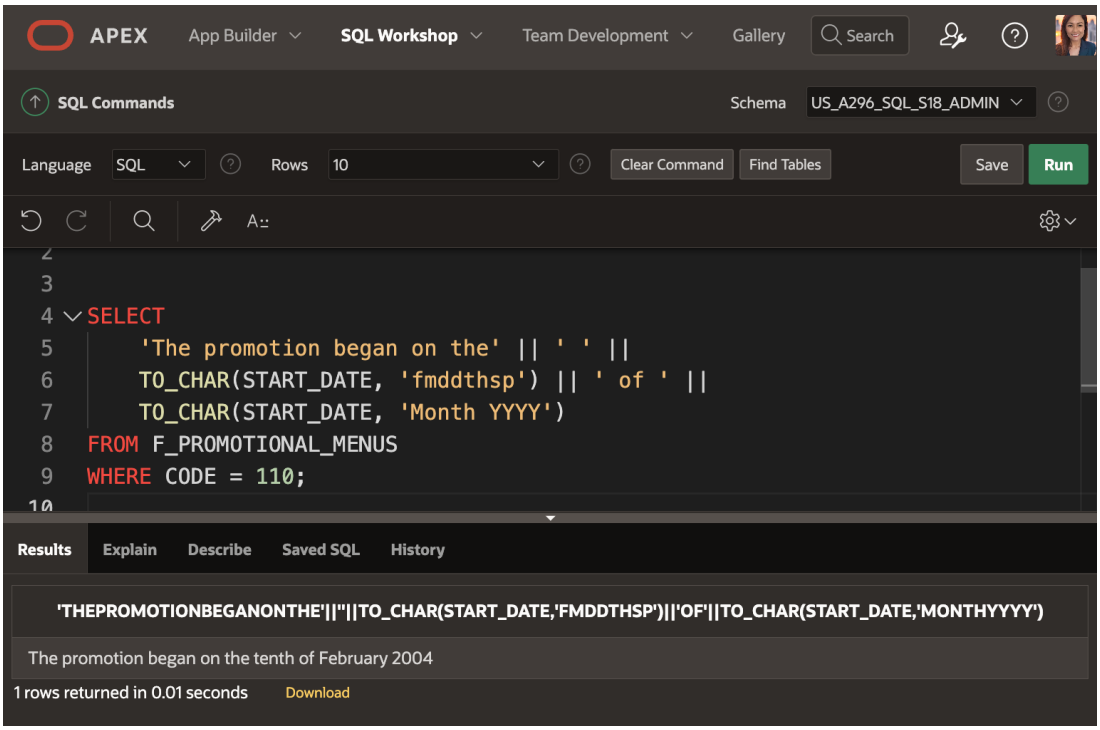
1) List the last names and birthdays of Global Fast Food Employees. Convert the birth dates to character data in the Month DD, YYYY format. Suppress any leading zeros.



2) Convert January 3, 04, to the default date format 03-Jan-2004.

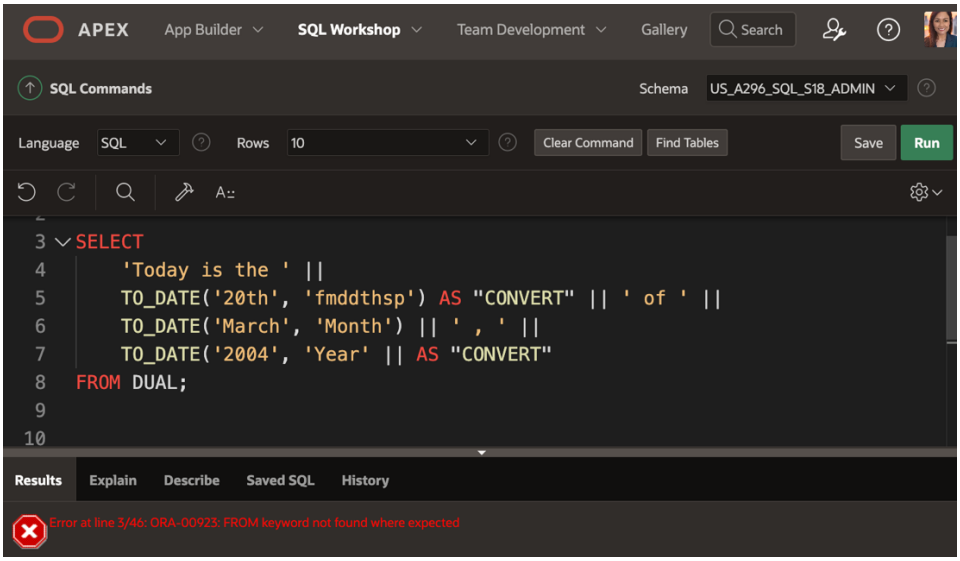


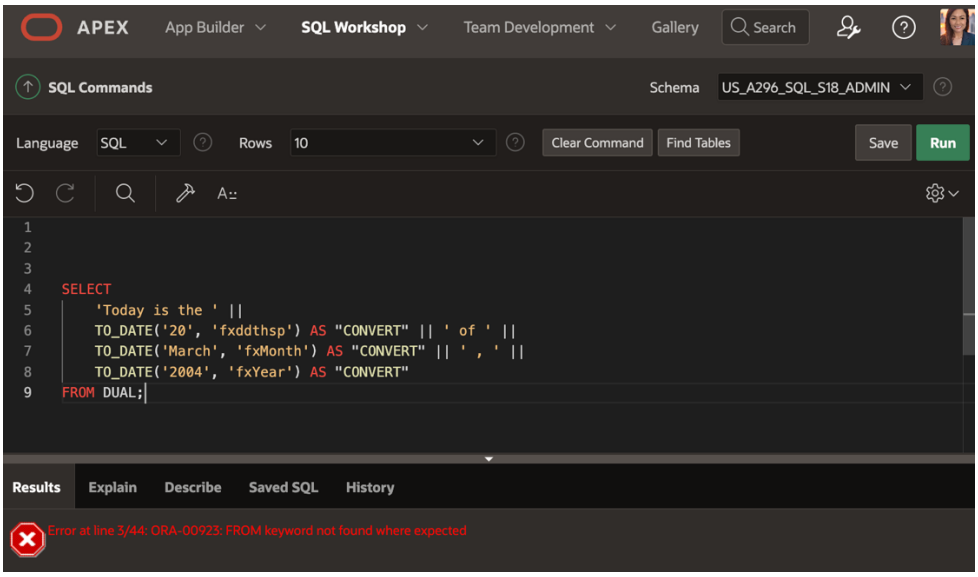
3) Format a query from the Global Fast Foods f_promotional_menus table to print out the start_date of promotional code 110 as: The promotion began on the tenth of February 2004.



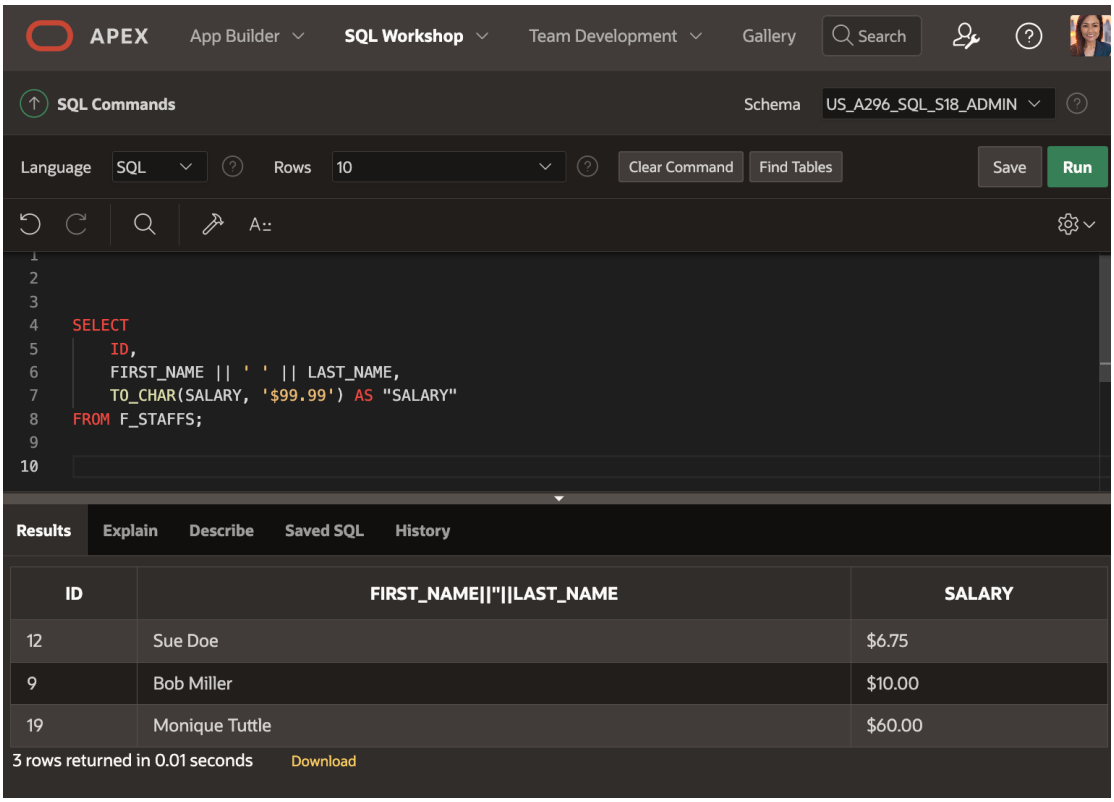
4) Convert today's date to a format such as: "Today is the Twentieth of March, Two Thousand Four"

I attempted to use multiple queries to come up with the correct answer. However, I was not successful.

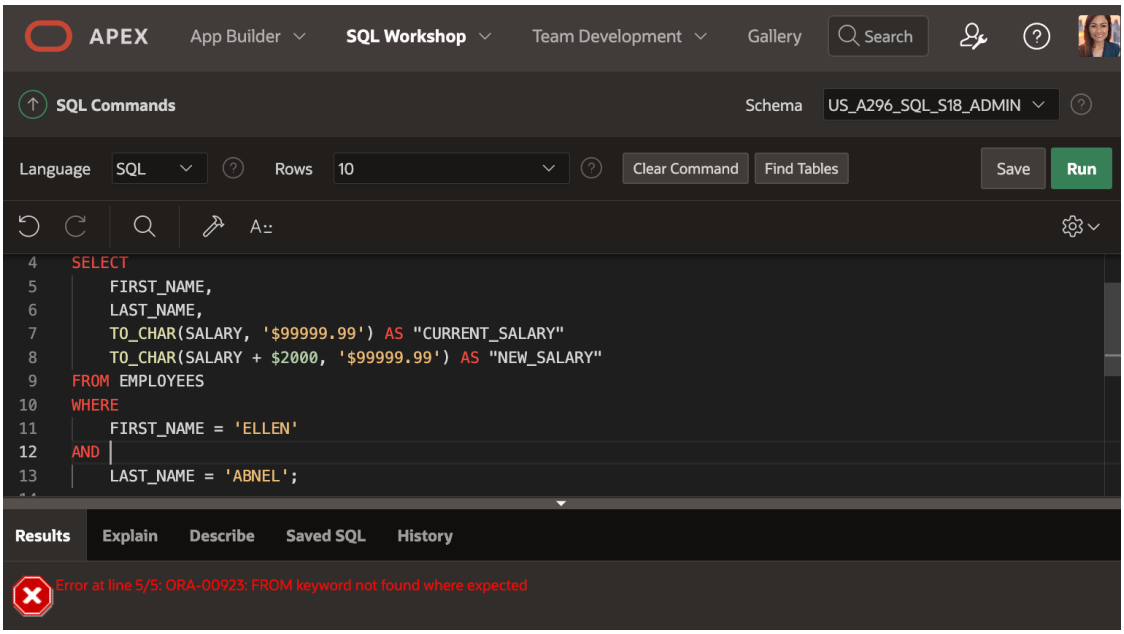




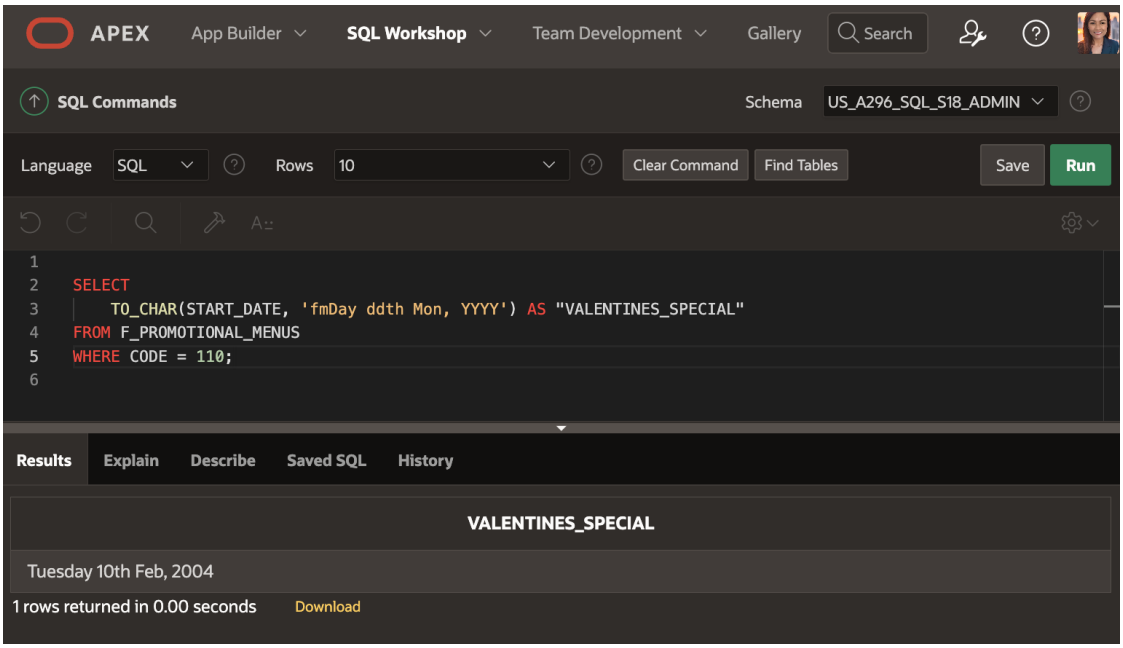
5) List the ID, name, and salary for all Global Fast Foods employees. Display salary with a $ sign and two decimal places.



6) Ellen Abel is an employee who has received a $2,000 raise. Display her first name and last name, her current salary, and her new salary. Display both salaries with a $ and two decimal places. Label her new salary column AS New Salary.

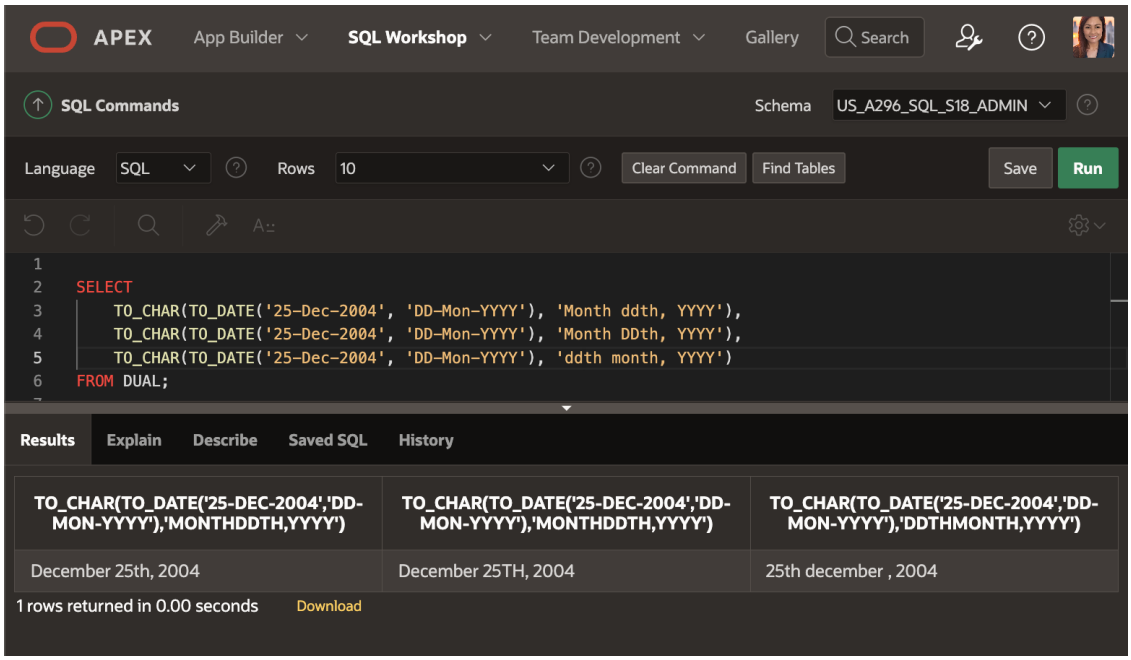


7) On what day of the week and date did Global Fast Foods' promotional code 110 Valentine's Special begin?

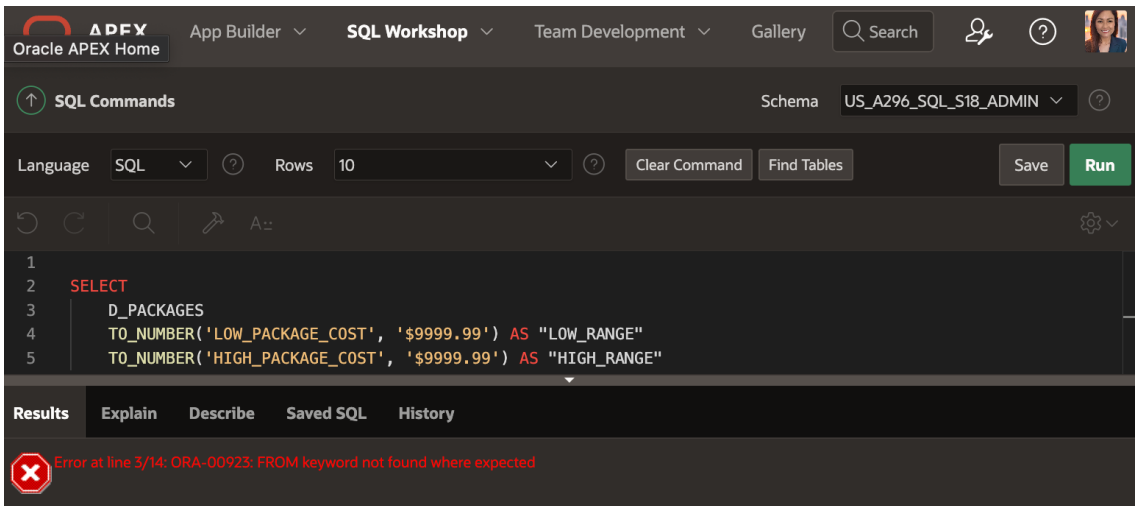


8) Create one query that will convert 25-Dec-2004 into each of the following (you will have to convert 25-Dec-2004 to a date and then to character data):

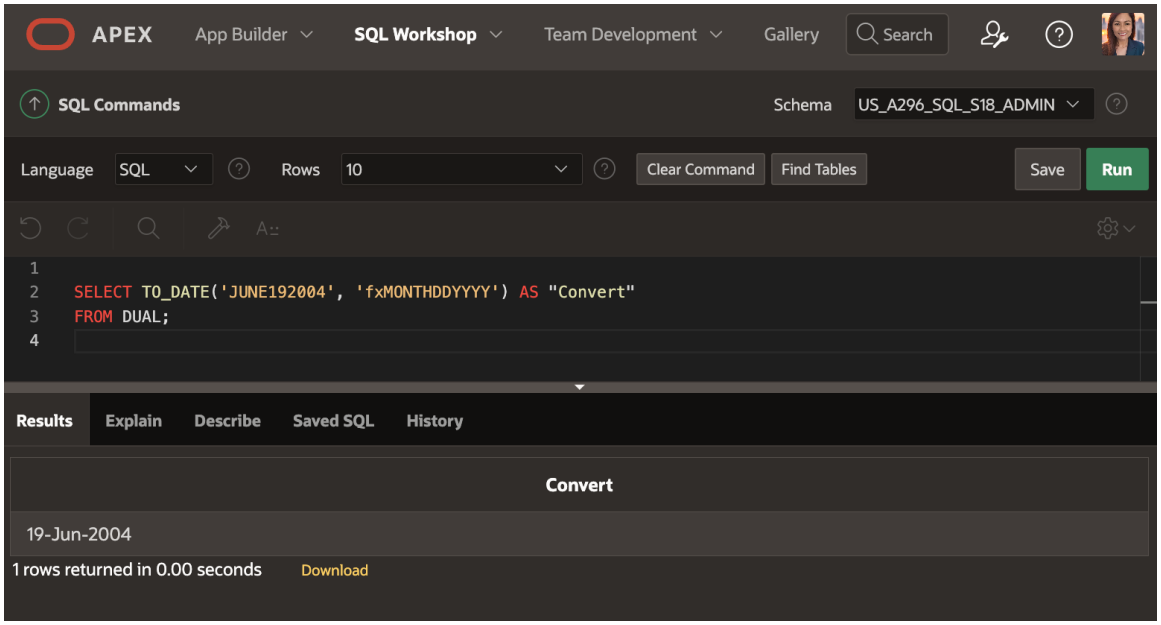
December 25th, 2004
DECEMBER 25TH, 2004
25th december, 2004



9) Create a query that will format the DJs on Demand d_packages columns, low-range and high-range package costs, in the format $2500.00.



10) Convert JUNE192004 to a date using the fx format model.



11) What is the distinction between implicit and explicit datatype conversion? Give an example of each.

- **IMPLICIT DATA TYPE:** Oracle Server can automatically convert VARCHAR2 and CHAR data to NUMBER and DATE data type.
  - **Example:**
    SELECT ' STUDENT_ID: ' || STUDENT_ID –>is a number column--this will implicitly convert to VARCHAR2 by Oracle
    FROM STUDENTS;

- **EXPLICIT DATA TYPE:** We can use special functions to directly instruct Oracle to transform a value from its current data type into a different one even though Oracle can automatically handle data type changes.
  - **Example:**
    SELECT TO_DATE('Nov23,2024', 'fxMonDD,YYYY') AS "Convert"
    FROM DUAL;

12) Why is it important from a business perspective to have datatype conversions?
I'm not an expert but I believe utilizing data type conversions can greatly reduce errors. For instance, when explicitly converting data types ensures that operations are performed on compatible values to prevent incompatible or mismatching data types.

SQL Database Programming: Section 5-2: NULL Functions

Vocabulary

NVL function – Converts nulls to an actual value

COALESCE – Returns the first non-null expression in the list

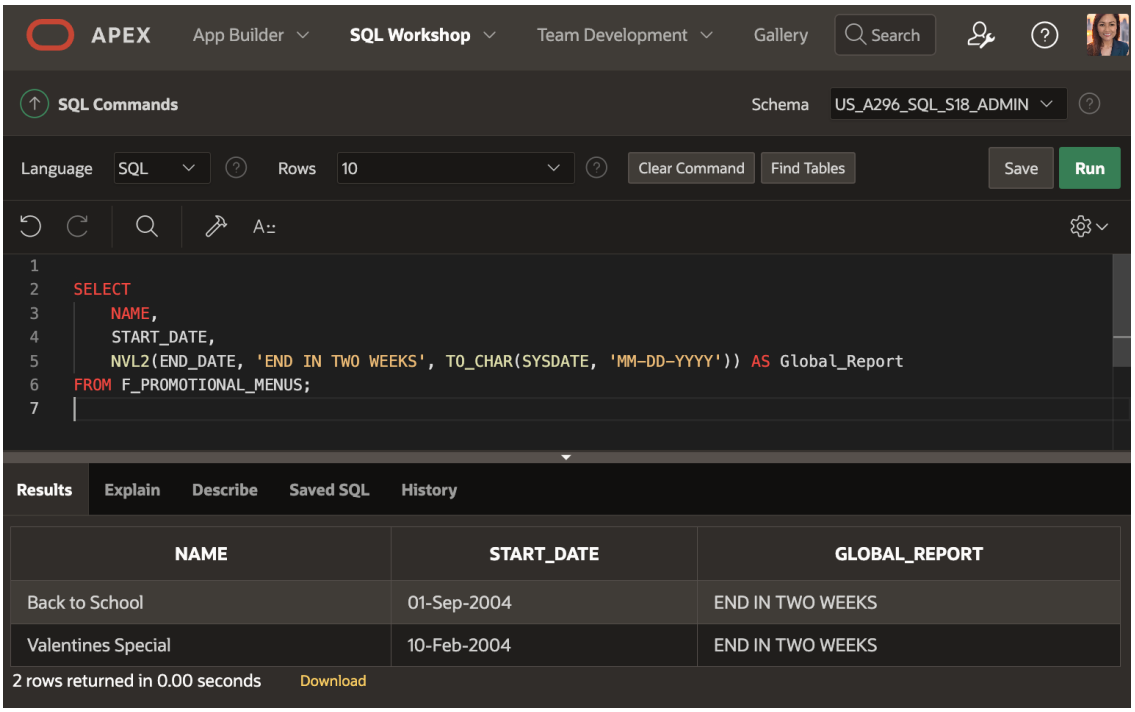
NVL2 – Examines the first expression; if the first expression is not null, it returns the second expression; if the first expression is null, it
returns the third expression

NULLIF – Compares two expressions; if they are equal, the function returns null; if they are not equal, the function returns the first expression

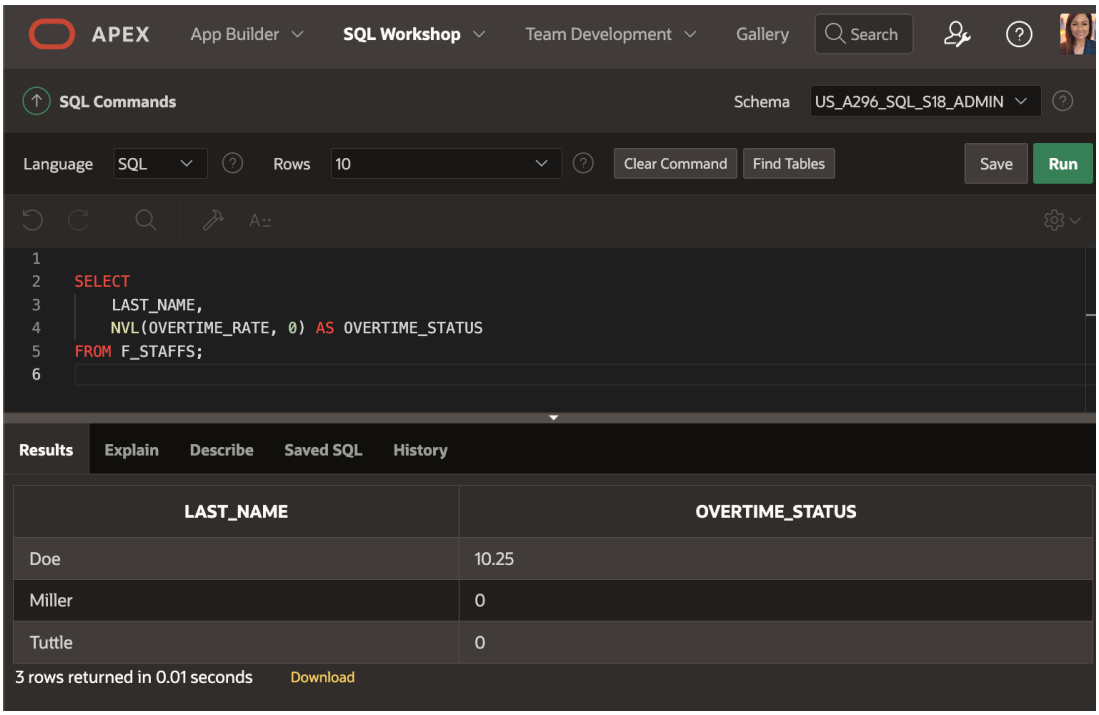
Try It / Solve It

Use aliases to make the output more readable.

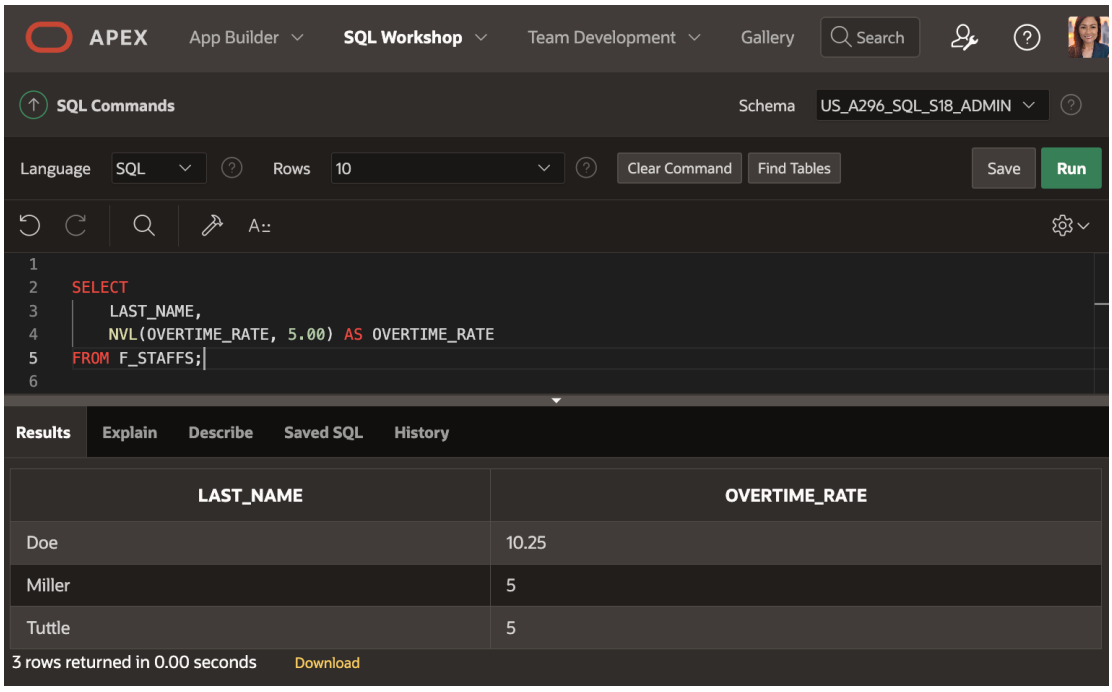
1) Create a report that shows the Global Fast Foods promotional name, start date, and end date from the f_promotional_menus table. If there is an end date, temporarily replace it with "end in two weeks." If there is no end date, replace it with today's date.



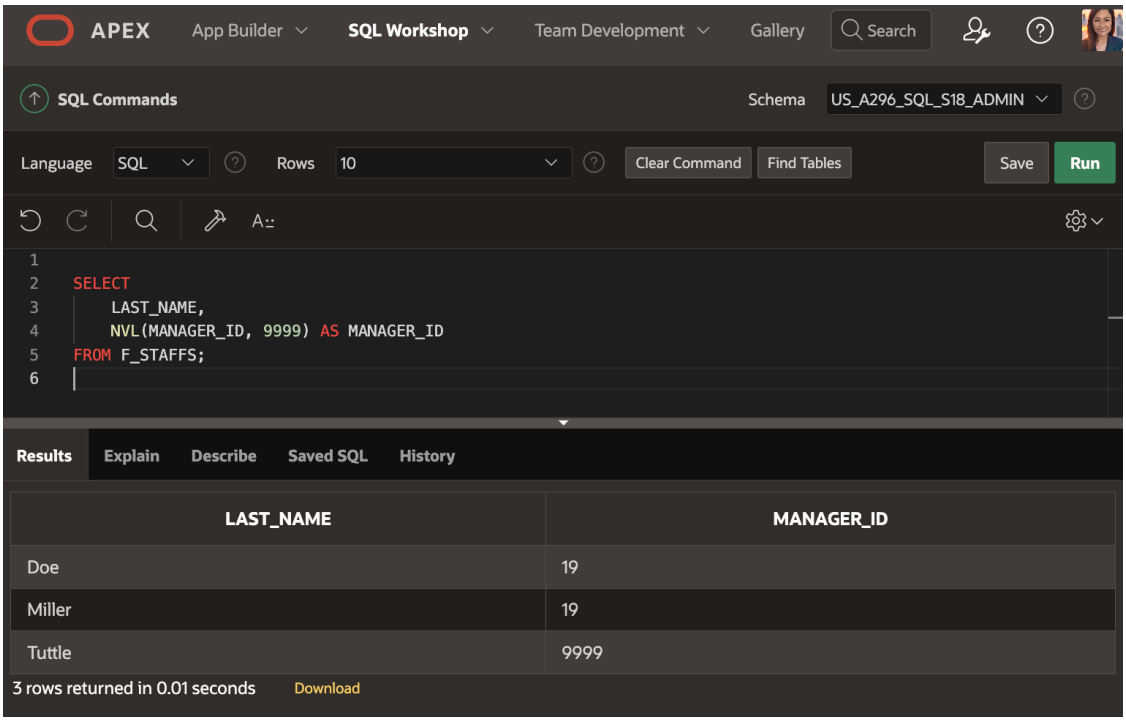
2) Not all Global Fast Foods staff members receive overtime pay. Instead of displaying a null value for these employees, replace null with zero. Include the employee's last name and overtime rate in the output. Label the overtime rate as "Overtime Status".



3) The manager of Global Fast Foods has decided to give all staff who currently do not earn overtime an overtime rate of $5.00. Construct a query that displays the last names and the overtime rate for each staff member, substituting $5.00 for each null overtime value. and/or its affiliates. and/or its affiliates.



4) Not all Global Fast Foods staff members have a manager. Create a query that displays the employee last name and 9999 in the manager ID column for these employees.



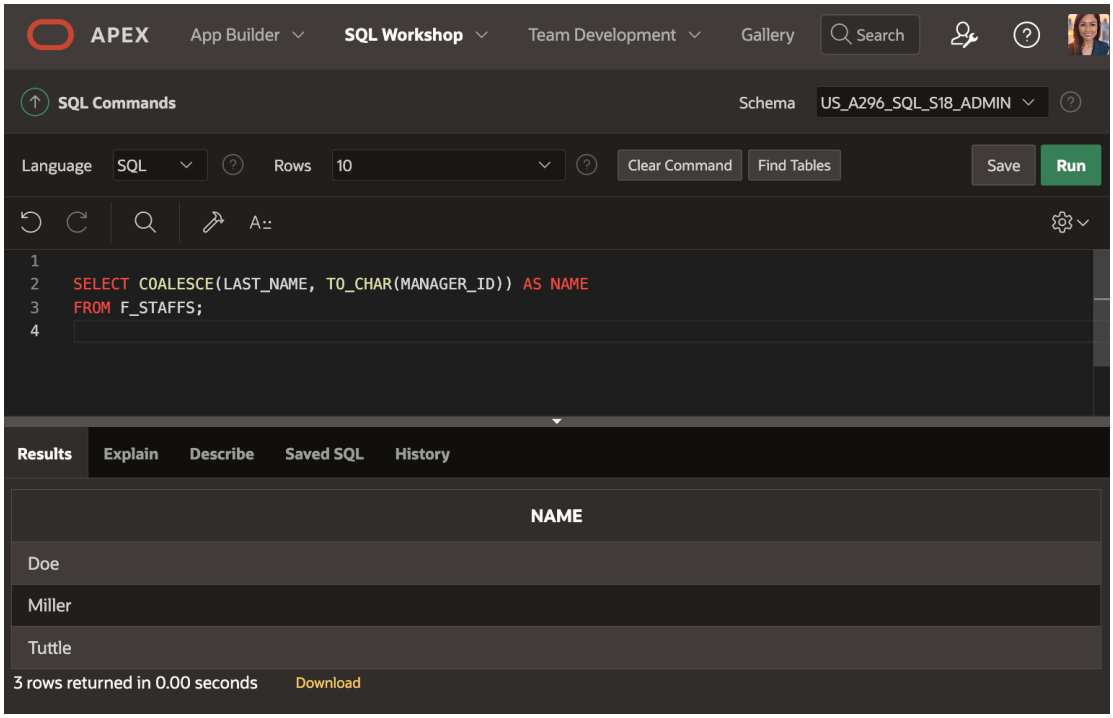
5)Which statement(s) below will return null if the value of v_sal is 50?

a. SELECT nvl(v_sal, 50) FROM emp;
b. SELECT nvl2(v_sal, 50) FROM emp;
c. SELECT **nullif**(v_sal, 50) FROM emp;
d. SELECT coalesce (v_sal, Null, 50) FROM emp;

<<< MORE ANSWERS ON THE NEXT PAGE >>>

6. What does this query on the Global Fast Foods table return?

```
SELECT COALESCE(last_name, to_char(manager_id)) as NAME
FROM f_staffs;
```



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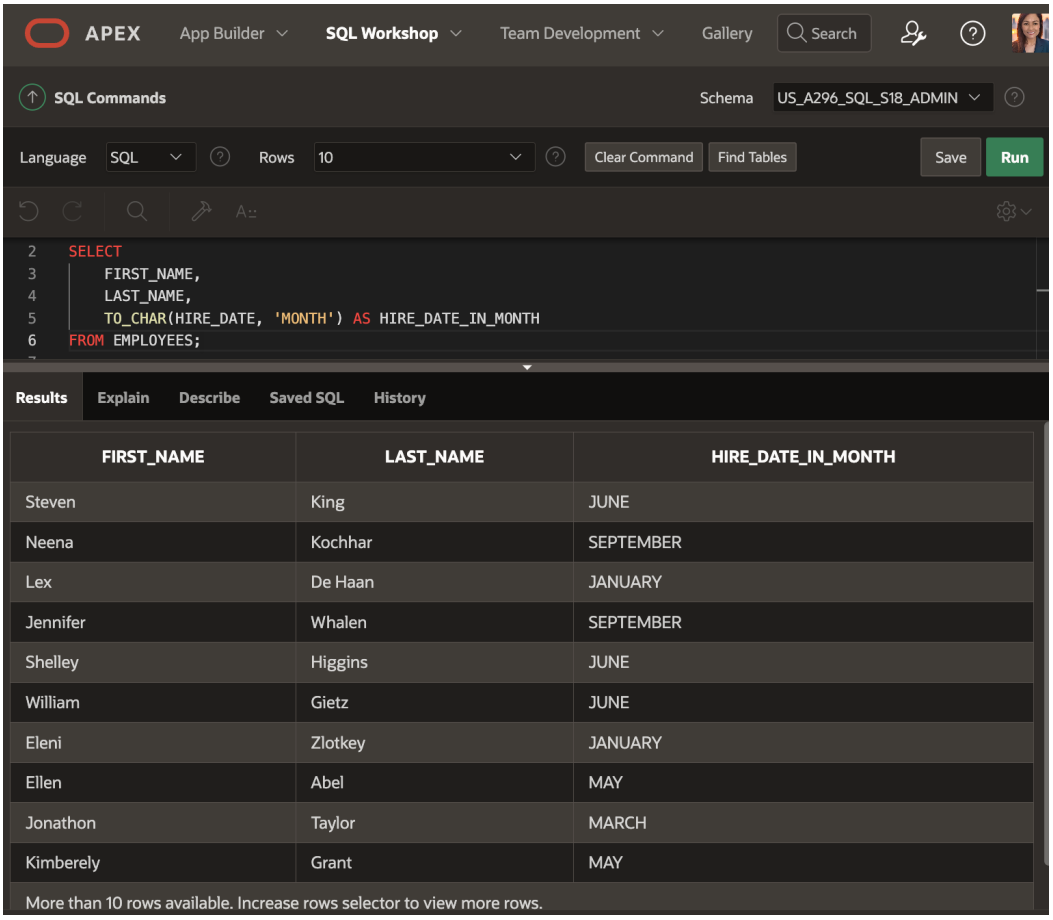
7)

a. Create a report listing the first and last names and month of hire for all employees in the EMPLOYEES table (use TO_CHAR to convert hire_date to display the month).



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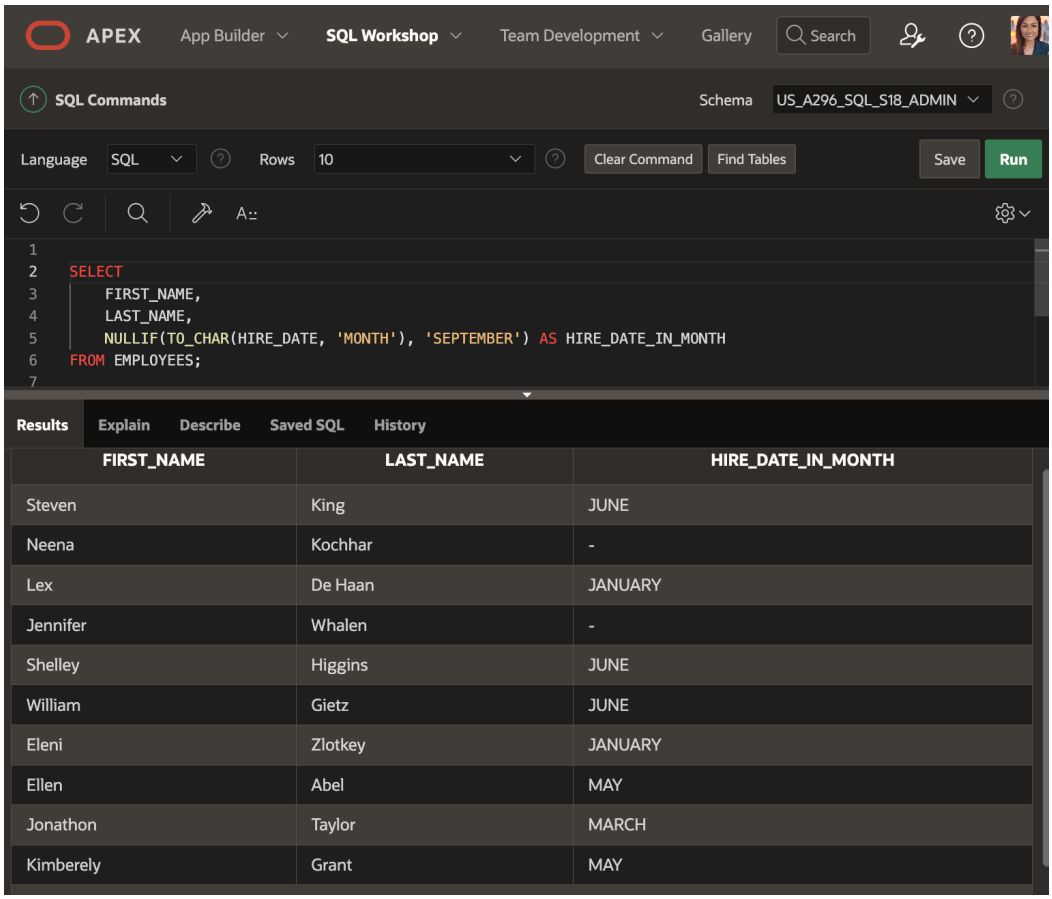
b. Modify the report to display null if the month of hire is September. Use the NULLIF function.



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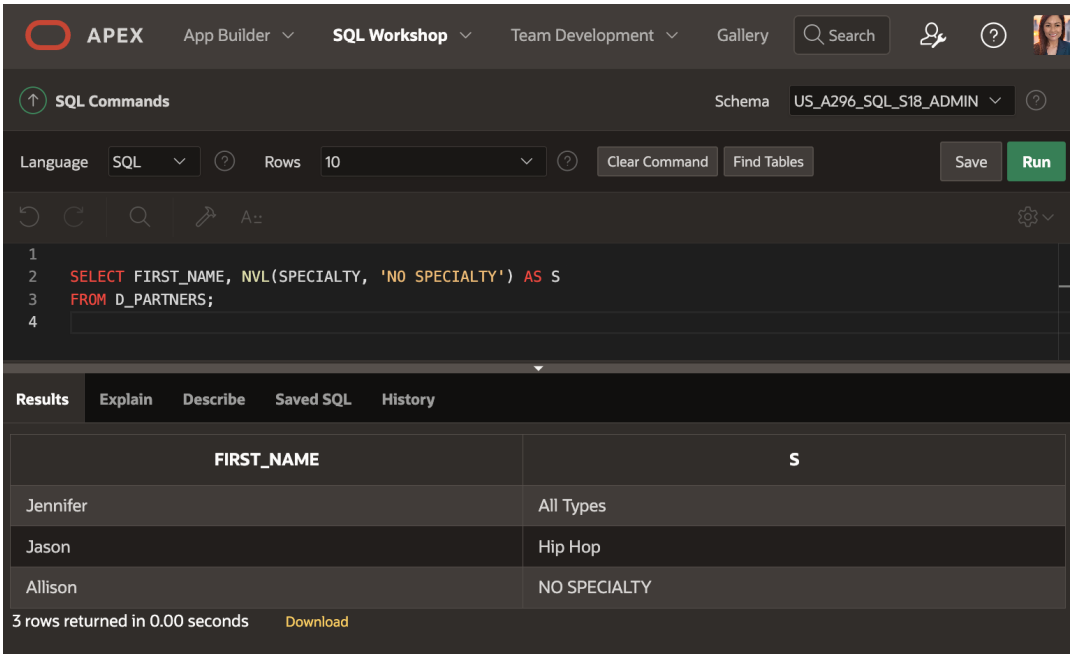
8. For all null values in the specialty column in the DJs on Demand d_partners table, substitute “No Specialty.” Show the first name and s



SQL Database Programming: Section 5-3: Conditional Expressions

Vocabulary

DECODE – Compares an expression to each of the search values

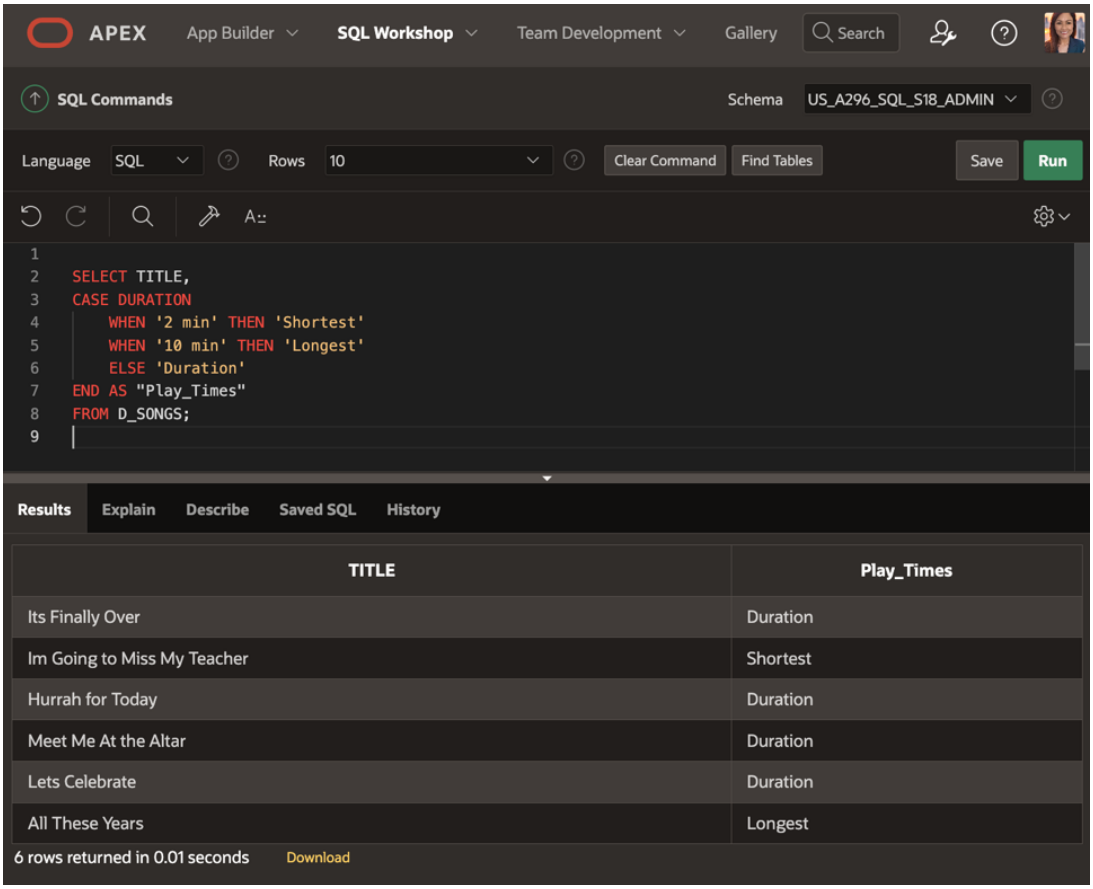
CONDITIONAL EXPRESSIONS – An if-then-else expression whose value depends on the truth- value of a Boolean expression.

CASE – Implements conditional processing within a SQL statement; it meets the ANSI standard.

<<< MORE ANSWERS ON THE NEXT PAGE >>>

Try It / Solve It

1. From the DJs on Demand d_songs table, create a query that replaces the 2-minute songs with “shortest” and the 10-minute songs with “longest”. Label the output column “Play Times”.



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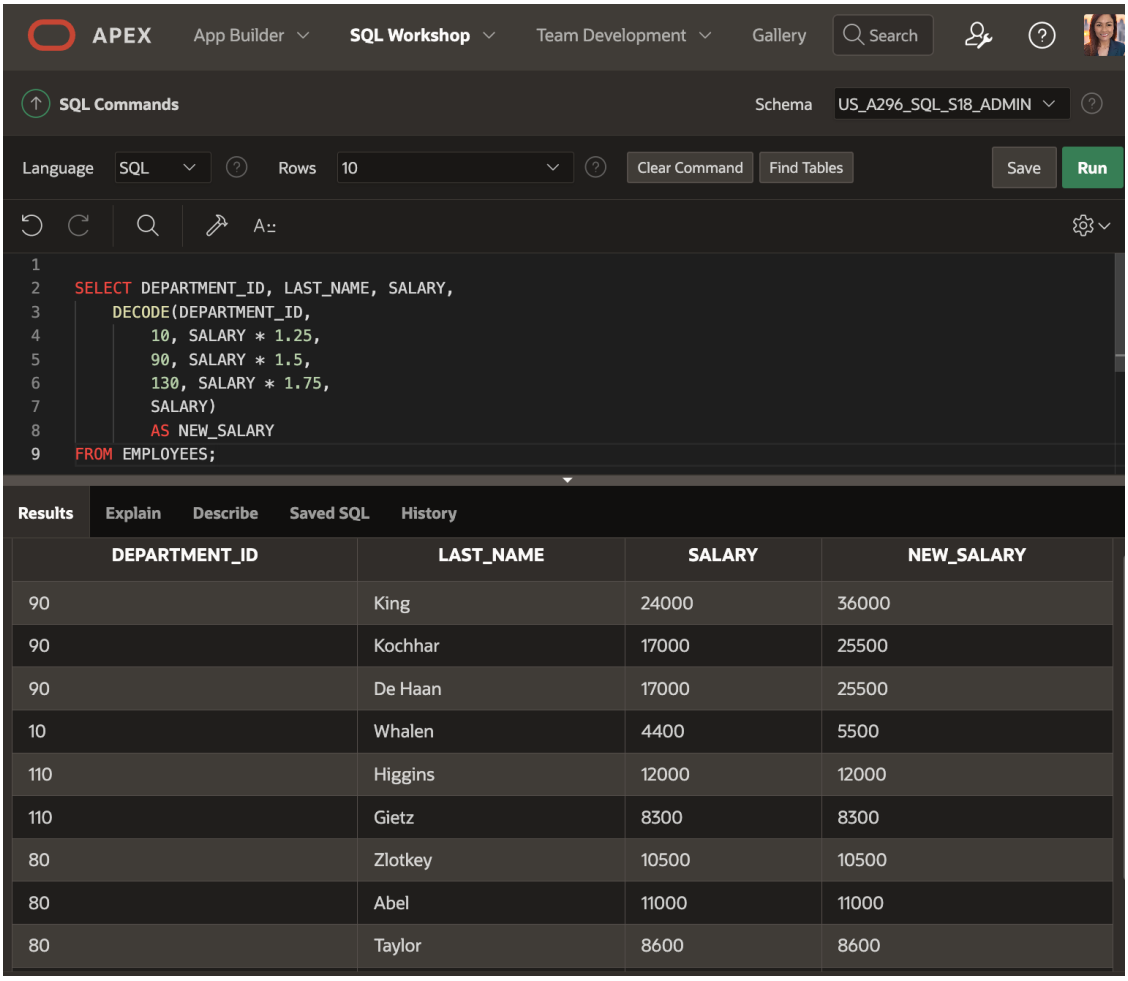
2. Use the Oracle database employees table and CASE expression to decode the department id. Display the department id, last name, salary, and a column called “New Salary” whose value is
based on the following conditions:

If the department id is 10 then 1.25 * salary
If the department id is 90 then 1.5 * salary
If the department id is 130 then 1.75 * salary
Otherwise, display the old salary.



DEPARTMENT_ID	LAST_NAME	SALARY	NEW_SALARY
90	King	24000	36000
90	Kochhar	17000	25500
90	De Haan	17000	25500
10	Whalen	4400	5500
110	Higgins	12000	12000
110	Gietz	8300	8300
80	Zlotkey	10500	10500
80	Abel	11000	11000
80	Taylor	8600	8600