Answer Sheet - SQL

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Major Question 1

A) List the salary of all the employees.

```
-- Retrieve employee names and salaries
SELECT ename, salary
-- Selecting the 'ename' (employee name) and 'salary' columns from the 'employee' table
FROM employee;
-- Specify the source table 'employee' from which to retrieve the data
```

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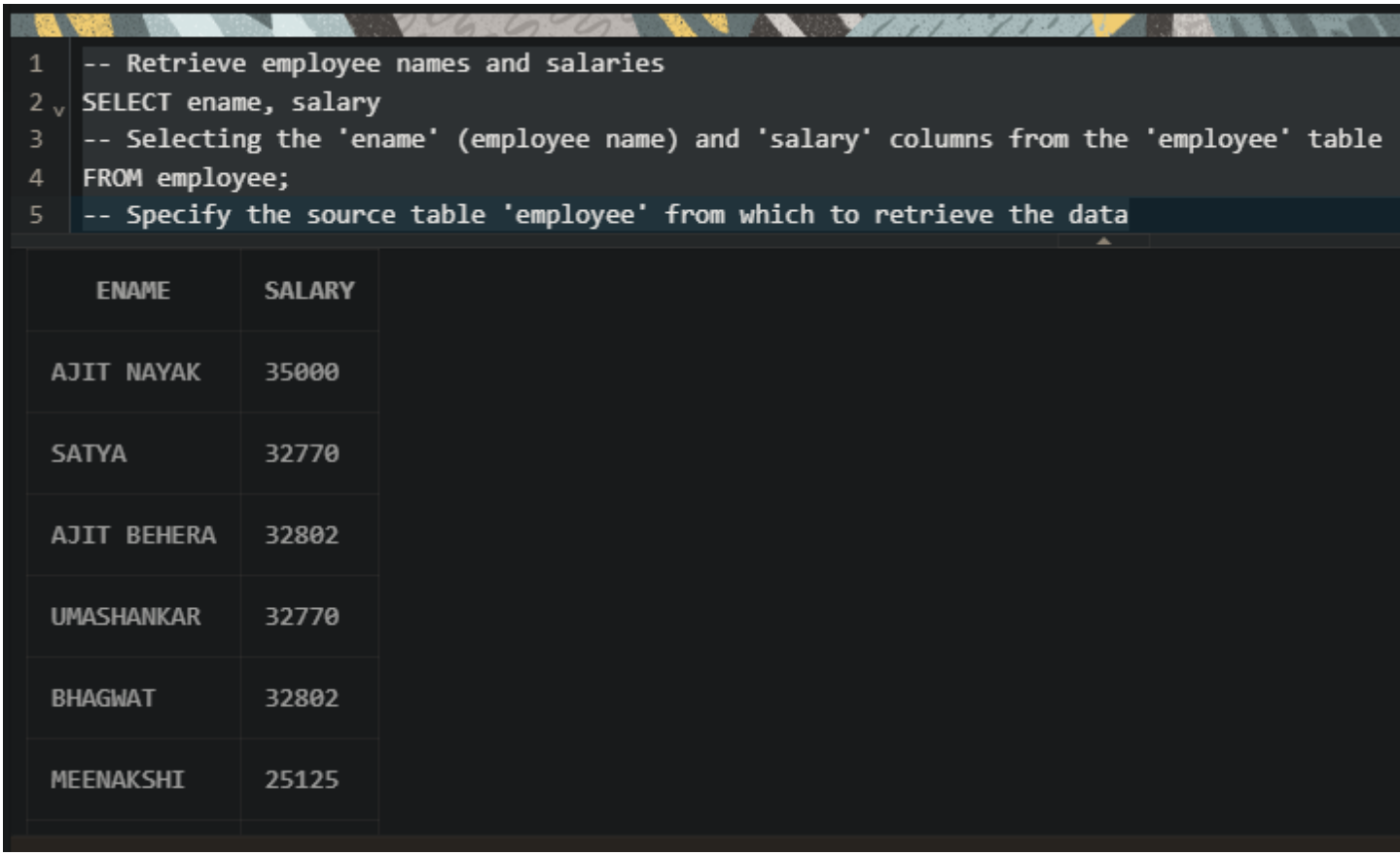

```
1  -- Retrieve employee names and salaries
2  SELECT ename, salary
3  -- Selecting the 'ename' (employee name) and 'salary' columns from the 'employee' table
4  FROM employee;
5  -- Specify the source table 'employee' from which to retrieve the data
```

ENAME	SALARY
AJIT NAYAK	35000
SATYA	32770
AJIT BEHERA	32802
UMASHANKAR	32770
BHAGWAT	32802
MEENAKSHI	25125

B) Display the names of all employees with any “A” at any place of the name.

```
-- Selects thej "ENAME" column, which likely represents
employee names.

SELECT ENAME

-- Specifies the source table for data retrieval, which is
the "EMPLOYEE" table.

FROM EMPLOYEE

-- It only includes rows where the "ENAME" column contains
the letter 'A' at any position.

WHERE ENAME LIKE '%A%';
```

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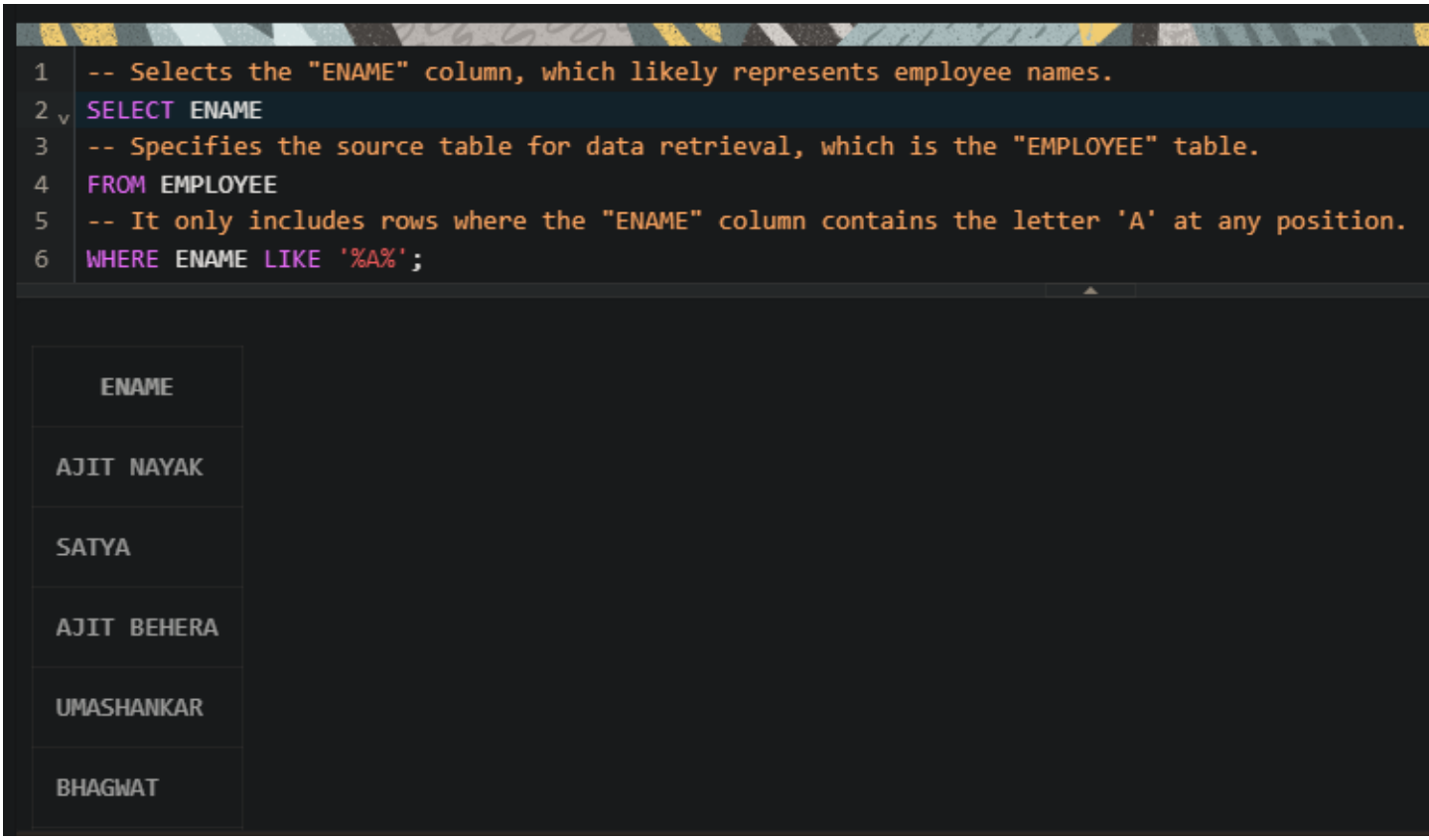

C) Show all employees who were hired in the first half of the month (Before the 16th of the month).

```
-- Selects all columns from the DEPARTMENT table.
SELECT *
-- Filters the results.
FROM DEPARTMENT
-- This condition extracts the day (DD) from the MGRSTARTD date column,
-- converts it to a number, and checks if it's less than or equal to 15.
WHERE TO_NUMBER(TO_CHAR(MGRSTARTD, 'DD')) <= 15;
```

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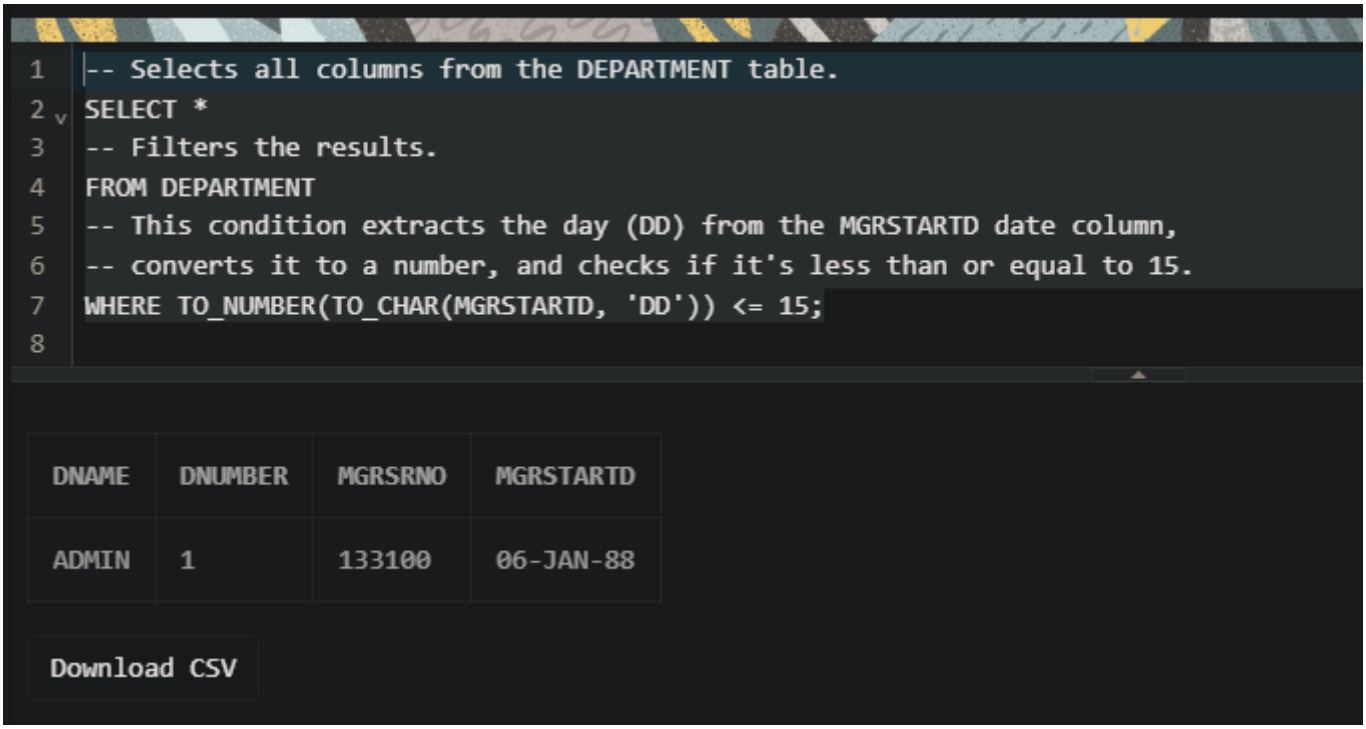

D) Display the name of all female employees.

```
SELECT ENAME, SEX
-- Select the columns for employee name and gender.
FROM EMPLOYEE
-- The data is being retrieved from the EMPLOYEE table.
WHERE SEX='F';
-- Filters the results to include only records where the gender is 'F' (Female).
```

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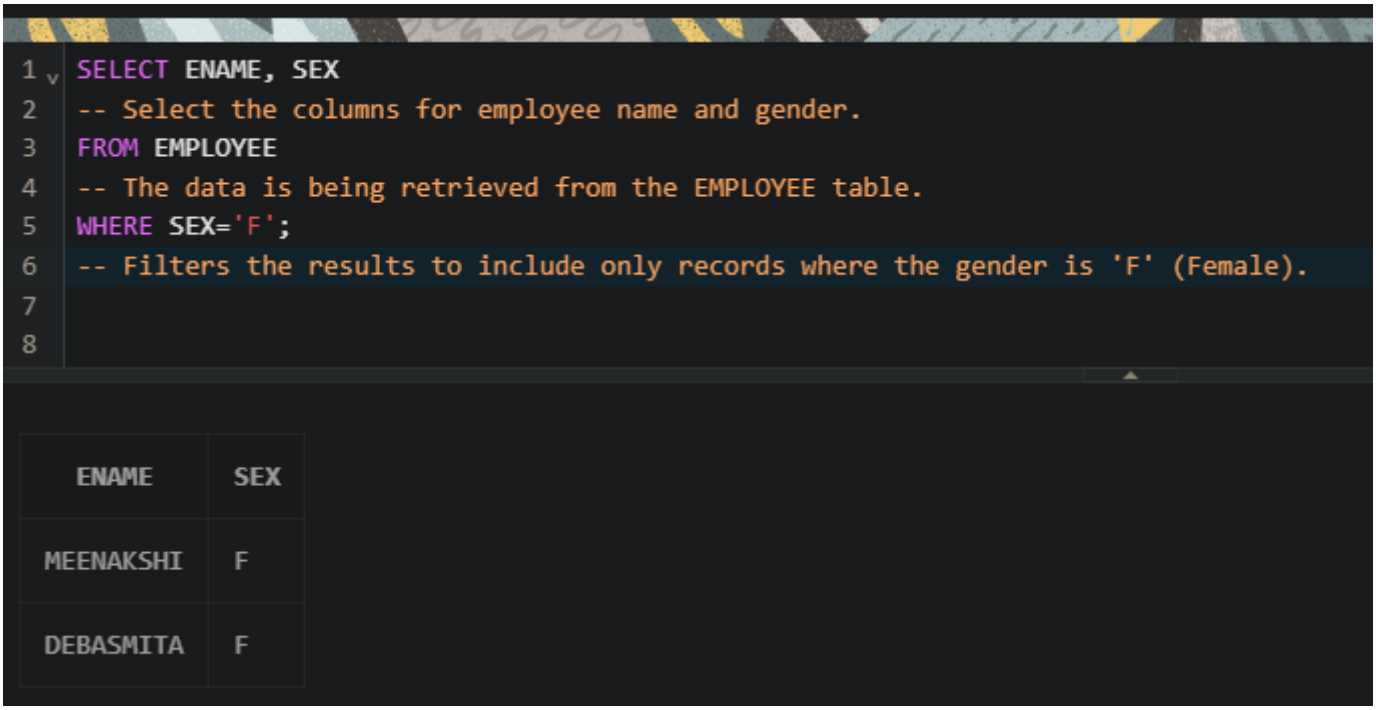

E) Display the employee who is paid most in the company.

```
-- Select all columns from the "EMPLOYEE" table
SELECT * FROM EMPLOYEE
-- Filter the results using a subquery
WHERE SALARY IN
(
-- Subquery: Find the maximum salary from the "EMPLOYEE" table
  SELECT MAX(SALARY)
  FROM EMPLOYEE
);
```

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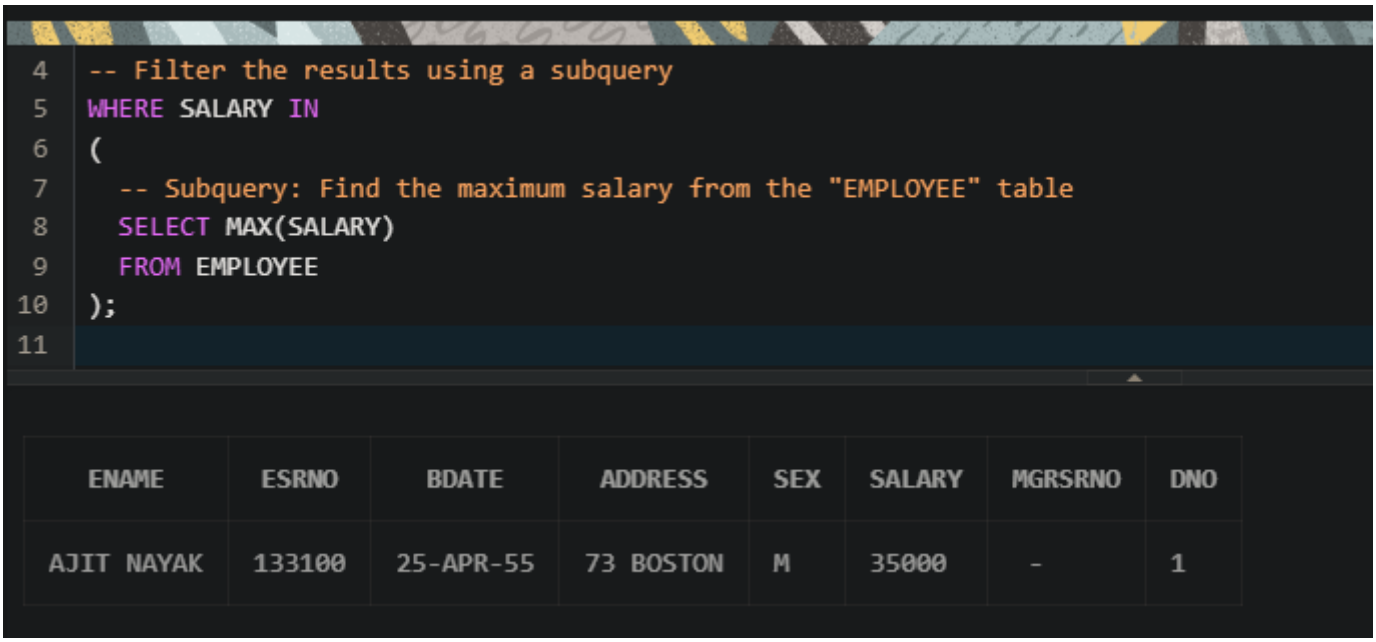

```
4  -- Filter the results using a subquery
5  WHERE SALARY IN
6  (
7    -- Subquery: Find the maximum salary from the "EMPLOYEE" table
8    SELECT MAX(SALARY)
9    FROM EMPLOYEE
10 );
11
```

ENAME	ESRNO	BDATE	ADDRESS	SEX	SALARY	MGRSRNO	DNO
AJIT NAYAK	133100	25-APR-55	73 BOSTON	M	35000	-	1

Major Question 2

A) Display employee name, address, department no and department name.

```
-- Selects employee name, address, department number, and department name
SELECT ENAME, ADDRESS, DNO, DNAME
-- Specifies the source tables to retrieve data from
FROM EMPLOYEE
-- Performs an INNER JOIN with the DEPARTMENT table
INNER JOIN DEPARTMENT
-- Specifies the join condition based on employee's serial number and manager's serial number
ON EMPLOYEE.ESRNO = DEPARTMENT.MGRSRNO;
```

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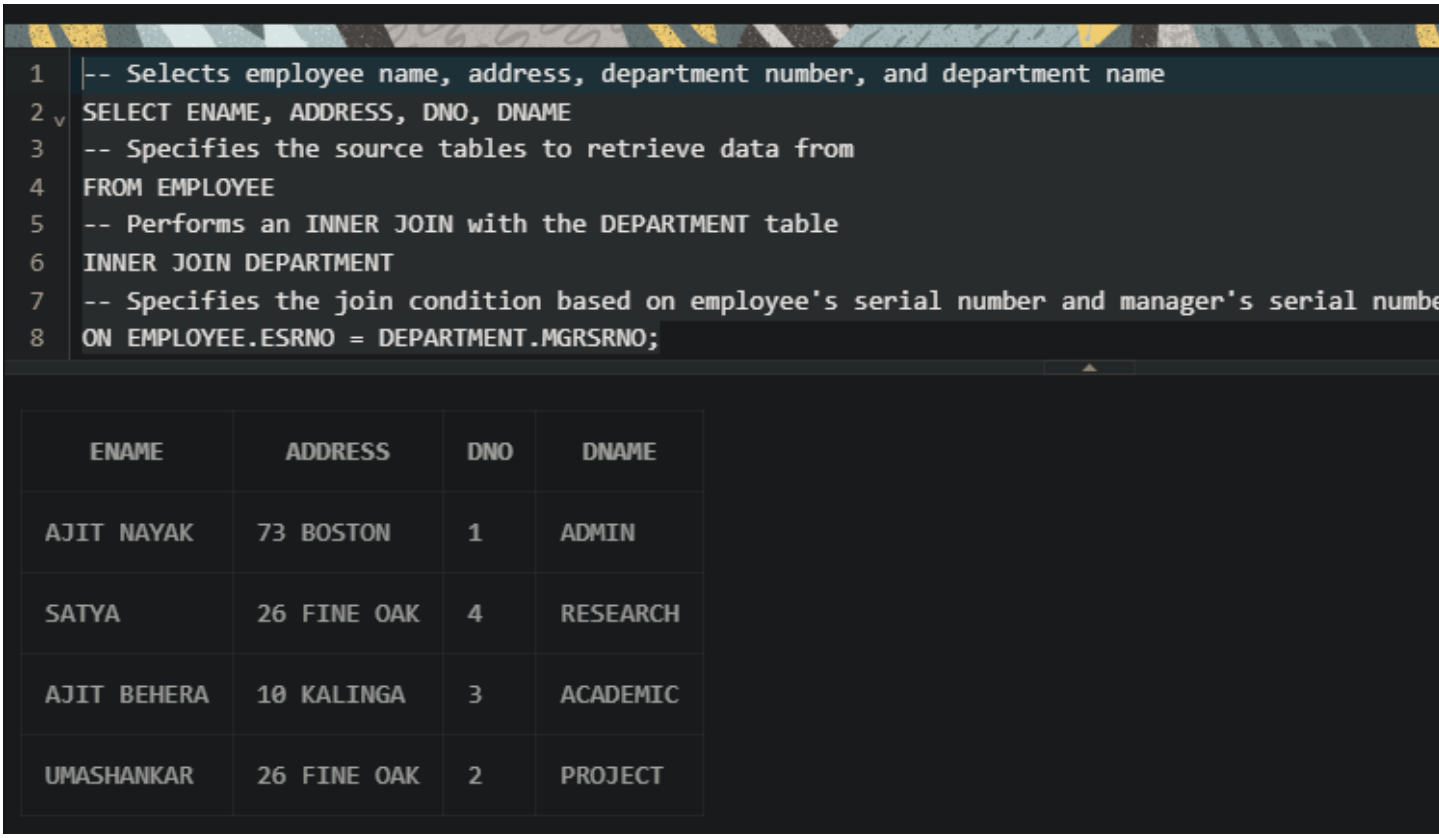

```
1  -- Selects employee name, address, department number, and department name
2  SELECT ENAME, ADDRESS, DNO, DNAME
3  -- Specifies the source tables to retrieve data from
4  FROM EMPLOYEE
5  -- Performs an INNER JOIN with the DEPARTMENT table
6  INNER JOIN DEPARTMENT
7  -- Specifies the join condition based on employee's serial number and manager's serial numbe
8  ON EMPLOYEE.ESRNO = DEPARTMENT.MGRSRNO;
```

ENAME	ADDRESS	DNO	DNAME
AJIT NAYAK	73 BOSTON	1	ADMIN
SATYA	26 FINE OAK	4	RESEARCH
AJIT BEHERA	10 KALINGA	3	ACADEMIC
UMASHANKAR	26 FINE OAK	2	PROJECT

B) Display all the employees who are *not in* ACADEMIC department

```
-- Selects employee names and department names
SELECT EMPLOYEE.ENAME, DEPARTMENT.DNAME
-- Retrieves data from the EMPLOYEE and DEPARTMENT tables
FROM EMPLOYEE
-- Performs an inner join between EMPLOYEE and DEPARTMENT on the manager's serial number
INNER JOIN DEPARTMENT ON EMPLOYEE.ESRNO = DEPARTMENT.MGRSRNO
-- Filters the results to exclude departments with the name 'ACADEMIC'
WHERE DNAME != 'ACADEMIC';
```

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```
1  -- Selects employee name, address, department number, and department name
2  SELECT ENAME, ADDRESS, DNO, DNAME
3  -- Specifies the source tables to retrieve data from
4  FROM EMPLOYEE
5  -- Performs an INNER JOIN with the DEPARTMENT table
6  INNER JOIN DEPARTMENT
7  -- Specifies the join condition based on employee's serial number and manager's serial numbe
8  ON EMPLOYEE.ESRNO = DEPARTMENT.MGRSRNO;
```

ENAME	ADDRESS	DNO	DNAME
AJIT NAYAK	73 BOSTON	1	ADMIN
SATYA	26 FINE OAK	4	RESEARCH
AJIT BEHERA	10 KALINGA	3	ACADEMIC
UMASHANKAR	26 FINE OAK	2	PROJECT

C) Display SATYAS' project location.

```
-- Selects distinct employee names (ENAME) and project
locations (PLOCATION)
SELECT DISTINCT EMPLOYEE.ENAME, PROJECT.PLOCATION
-- Specifies the source tables for the query
FROM EMPLOYEE
INNER JOIN WORKS_ON ON EMPLOYEE.ESRNO = WORKS_ON.ESRNO
INNER JOIN PROJECT ON WORKS_ON.PNO = PROJECT.PNUMBER
-- Filters the results to employees with the name 'SATYA'
WHERE EMPLOYEE.ENAME = 'SATYA';
```

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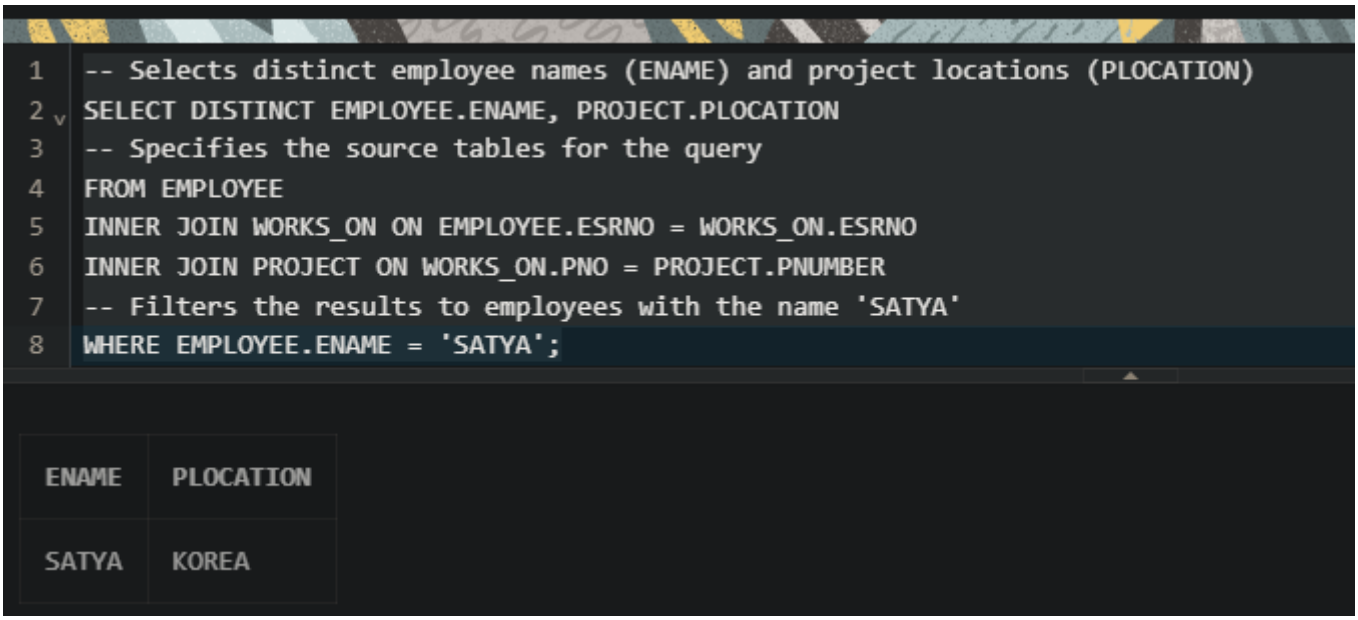

D) Find the total working hours of *each* female employee.

```
-- Selects employee names and their total working hours
SELECT E.ENAME, SUM(W.HOURS) AS TOTAL_WORKING_HOURS
-- Retrieves data from the "EMPLOYEE" table, aliasing it as "E"
FROM EMPLOYEE E
-- Joins the "EMPLOYEE" and "WORKS_ON" tables on the employee's unique identifier (ESRNO)
JOIN WORKS_ON W ON E.ESRNO = W.ESRNO
-- Filters the results to include only female employees
WHERE E.SEX = 'F'
-- Groups the results by employee name
GROUP BY E.ENAME;
```

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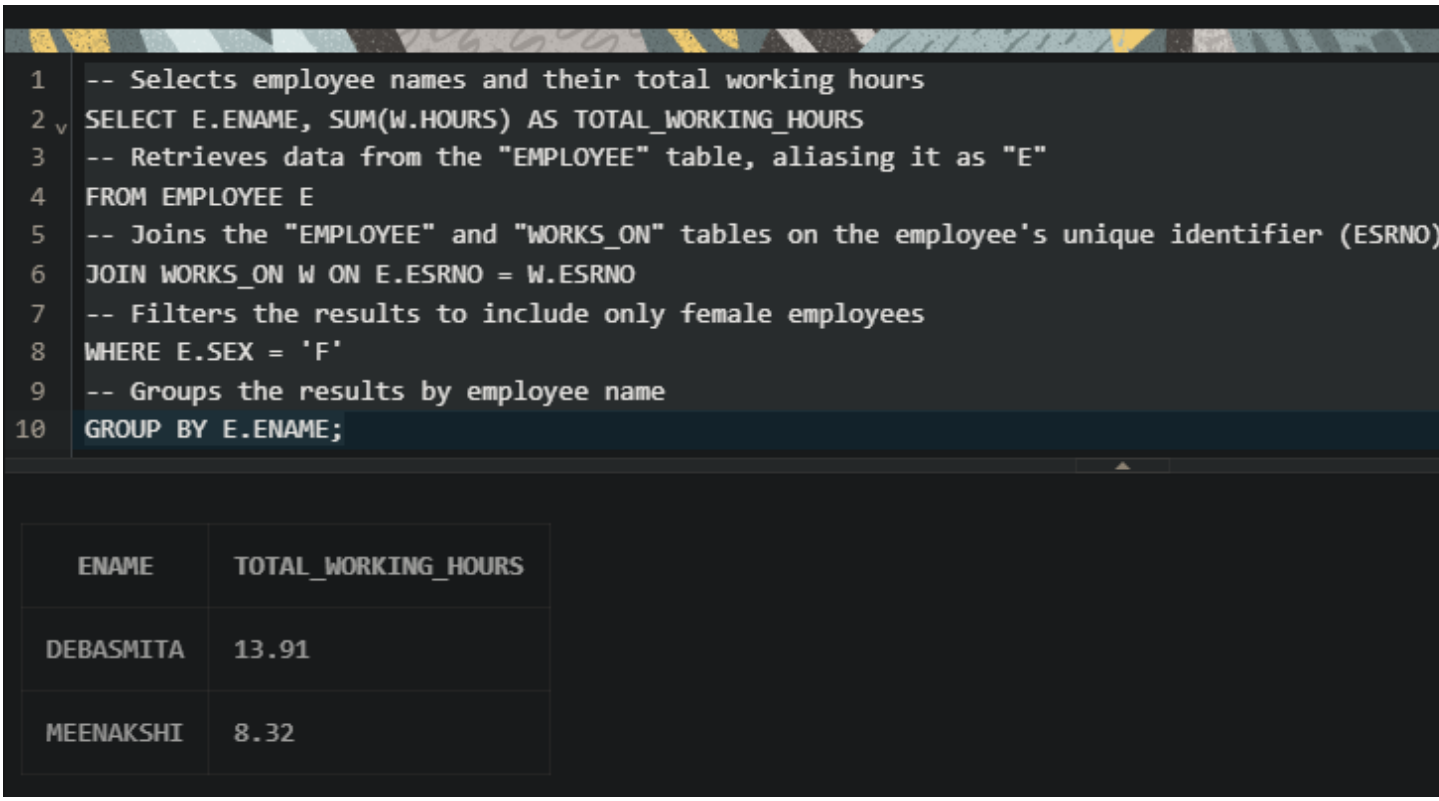

E) Display the details of the people whose projects are located at SOUTH AFRICA.

```
-- Selects distinct employee names, project names, project locations, and project numbers
SELECT DISTINCT EMPLOYEE.ENAME, PROJECT.PNAME, PROJECT.PLOCATION, PROJECT.PNUMBER
-- Retrieves data from the "PROJECT" table
FROM PROJECT
-- Joins the "PROJECT" and "WORKS_ON" tables on the project number (PNUMBER)
INNER JOIN WORKS_ON ON PROJECT.PNUMBER = WORKS_ON.PNO
-- Further joins the "WORKS_ON" and "EMPLOYEE" tables on the employee's unique identifier (ESRNO)
INNER JOIN EMPLOYEE ON WORKS_ON.ESRNO = EMPLOYEE.ESRNO
-- Filters the results to include only projects located in 'SOUTH AFRICA'
WHERE PROJECT.PLOCATION = 'SOUTH AFRICA'
-- Orders the results by employee name
ORDER BY ENAME;
```

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