

Consider following relational schema and write the relational algebra expressions for given queries.

Sailors(sid: integer, sname: string, rating: integer, age: real);
Boats(bid: integer, bname: string, color: string);
Reserves(sid: integer, bid: integer, day: date).

1.

- 1. If boat Number is 103. Then find the names of sailors?
- 2. Find the names of sailors who have never reserved boat number 103.
- Write a PL/SQL program to generate student grade report.

2.

- 3. Red boats are reserved, Find the names of Sailors?
- 4. What is the color of the boat reserved by Lubber?
- Write a PL/SQL program to print whether the given number is palindrome or not

3.

- Write an SQL Query to find the sailors who reserved all the boats?
 - Find the names of sailors who have reserved both a red and a green boat?
- Write a PL/SQL program to find the total and average of 4 subjects and display the grade.

4.

- 6. Find the names of sailors who have reserved a red but not a green boat?
- 7. Find the sids of sailors with age over 20 who have not reserved a red boat.
- Write a PL/SQL block to find the largest of three numbers.

5.

- Find the names of sailors who have reserved at least two different boats.
 - Write a SQL Query to Find the ages of Sailors whose name begins and end with b and have at least three characters?
- Write a PL/SQL program to print the sum of even and odd numbers

6. Consider the following schema for a Employee Database:

EMPLOYEES (Employee_Id, First_Name, Last_Name, Email, Phone_Number, Hire_Date, Job_Id, Salary, Commission_Pct, Manager_Id, Department_Id)

Write SQL queries to

1. Find out the employee id, names, salaries of all the employees
2. Find the names of the employees who have a salary greater than or equal to 4800
3. Give Increment of 25% salary for Mathematics Department

Write a PL/SQL program to count digits in a given number.

7 LIBRARY MANAGEMENT

BOOK (BookID, Title, Author, Price)

ISSUE (IssueID, BookID, StudentID, IssueDate, ReturnDate)

List books not yet returned.

☐ Show student-wise issued books count (GROUP BY).

Write a PL/SQL program to print whether the given number is palindrome or not

8 Consider the schema for Company Database:

EMPLOYEE (SSN, Name, Address, Sex, Salary, SuperSSN, DNo)

DEPARTMENT (DNo, DName, MgrSSN, MgrStartDate)

DLOCATION (DNo, DLoc)

PROJECT (PNo, PName, PLocation, DNo)

WORKS_ON (SSN, PNo, Hours)

Write SQL queries to

- Show the resulting salaries if every employee working on the „IoT“ project is given a 10 percent raise.
- Find the sum of the salaries of all employees of the „Accounts“ department, as well as the maximum salary, the minimum salary, and the average salary in this department.

- Retrieve the name of each employee who works on all the projects controlled by department number 5 (use NOT EXISTS operator).
- PL/SQL Program for Reverse of a Number

9. Consider the schema for Movie Database:

ACTOR(Act_id, Act_Name, Act_Gender)

DIRECTOR(Dir_id, Dir_Name, Dir_Phone)

MOVIES(Mov_id, Mov_Title, Mov_Year, Mov_Lang, Dir_id)

MOVIE_CAST(Act_id, Mov_id, Role)

RATING(Mov_id, Rev_Stars)

Write SQL queries to

- List all actors who acted in a movie before 2000 and in a movie after 2015 (use

JOIN operation).

- Find the title of movies and number of stars for each movie that has at least one

rating and find the highest number of stars that movie received. Sort the result by movie title.

- PL/SQL Program to Find Factorial of a Number

10. Consider the schema for Company Database: EMPLOYEE (SID, Name, Address, Salary,AGE)

Write a trigger to ensure that no employee of age less than 25 can be inserted in the database.

- Write a PL/SQL program using CASE to display weekday names.