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0001:
0002: CREATE TABLE students (
0003:     student_id SERIAL PRIMARY KEY,
0004:     student_name VARCHAR(50),
0005:     course VARCHAR(50),
0006:     total_classes INT,
0007:     attended_classes INT,
0008:     percentage NUMERIC(5,2),
0009:     marks INT,
0010:     admission_year INT
0011: );
0012:
0013: INSERT INTO students (student_name, course, total_classes, attended_classes, percentage, marks
0014: VALUES
0015: ('Amit Kumar', 'BCA', 100, 90, 90.00, 85, 2021),
0016: ('Priya Sharma', 'BBA', 100, 75, 75.00, 70, 2022),
0017: ('Rahul Verma', 'BCA', 100, 60, 60.00, 55, 2020),
0018: ('Neha Patel', 'MBA', 100, 95, 95.00, 88, 2019),
0019: ('Kiran Das', 'B.Com', 100, 80, 80.00, 65, 2023),
0020: ('Anjali Rao', 'MBA', 100, 50, 50.00, 45, 2022),
0021: ('Rohit Mehta', 'BBA', 100, 85, 85.00, 82, 2021);
0022:
0023: SELECT * FROM students;
0024:
0025: -----Part A: Arithmetic Operators-----
0026:
0027: 1. Calculate attendance percentage for each student
0028: using (attended_classes * 100) / total_classes.
0029:
0030: SELECT
0031:     student_name,
0032:     (attended_classes * 100.0 / total_classes) AS attended_percentage
0033: FROM
0034:     students;
0035:
0036: 2. Show bonus marks as 5% of marks for students with attendance ≥ 85%.
0037:
0038: SELECT student_name, marks,
0039:     CASE WHEN percent >= 85 THEN marks * 0.05
0040:     ELSE 0
0041:     END AS bonus_marks
0042: FROM
0043:     students;
0044:
0045: 3. Increase marks by 3 points for students admitted before 2022.
0046:
0047:     SELECT student_name, marks,
0048:     CASE WHEN admission_year < 2022 THEN + 3 ELSE
0049:     marks END AS attended_classes FROM students;
0050:
0051: 4. Calculate total score = marks + bonus
0052: (bonus = 5% of marks if attendance ≥ 85 else 0).
0053:
0054: SELECT student_name,
0055: CASE WHEN attended_classes >= 85 THEN marks * 1.05 ELSE
0056: marks end as attended_classes FROM students;
0057:
0058: -----Part B: Comparison Operators-----
0059: 5. List students whose marks are greater than 80.
0060: SELECT * FROM students WHERE marks > '80';
0061:
0062: 6. Find students admitted after 2020.
0063: SELECT * FROM students WHERE admission_year > '2020';
0064:
0065: 7. Retrieve students whose attendance percentage is between 70 and 90.
0066: SELECT * FROM students WHERE percentage BETWEEN '70' AND '90';
0067:
0068: 8. Show students whose course is not 'MBA'.
0069: SELECT * FROM students WHERE course <> 'MBA'
0070:
0071: 9. Identify the student with the highest marks.
0072: SELECT * FROM students ORDER BY marks DESC LIMIT 1;
0073:
0074: ----- Part C: Logical Operators-----
0075:
0076: 10. Display students in the BCA course AND marks greater than 75.
0077: SELECT * FROM students WHERE course = 'BCA' AND marks > 75;

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0078:
0079: 11. Find students enrolled in BBA OR MBA courses.
0080: SELECT * FROM students WHERE course = 'BBA' OR course = 'MBA';
0081:
0082: 12. List students who have marks > 70 AND
0083: attendance > 80 AND admission_year < 2023.
0084:
0085: SELECT * FROM students WHERE marks > '70' AND
0086: admission_year > 80 AND admission_year < 2023;
0087:
```