

1. Consider the following MOVIE database and answer the SQL queries based on it.

MovieID	MovieName	Category	ReleaseDate	ProductionCost	BusinessCost
001	Hindi_Movie	Musical	2018-04-23	124500	130000
002	Tamil_Movie	Action	2016-05-17	112000	118000
003	English_Movie	Horror	2017-08-06	245000	360000
004	Bengali_Movie	Adventure	2017-01-04	72000	100000
005	Telugu_Movie	Action	-	100000	-
006	Punjabi_Movie	Comedy	-	30500	-

- Retrieve movies information without mentioning their column names.
 - List business done by the movies showing only MovieID, MovieName and BusinessCost.
 - List the different categories of movies.
 - Find the net profit of each movie showing its ID, Name and Net Profit.
(**Hint:** Net Profit = BusinessCost – ProductionCost)
 - List all movies with ProductionCost greater than 80,000 and less than 1,25,000 showing ID, Name and ProductionCost.
 - List all movies which fall in the category of Comedy or Action.
 - List the movies which have not been released yet.
2. Suppose your school management has decided to conduct cricket matches between students of class XI and Class XII. Students of each class are asked to join any one of the four teams — Team Titan, Team Rockers, Team Magnet and Team Hurricane. During summer vacations, various matches will be conducted between these teams. Help your sports teacher to do the following:
- Create a database “**Sports**”.
 - Create a table “**TEAM**” with following considerations:
 - It should have a column **TeamID** for storing an integer value which refers to unique identification of a team.
 - Each TeamID should have its associated name (**TeamName**), **which should be a string of length not less than 10 characters.**

c) Using table level constraint, make **TeamID as primary key.**

d) **Show the structure** of the table TEAM

e) As per the preferences of the students four teams were formed as given below. **Insert these four rows in TEAM table:**

Row 1: (1, Team Titan)

Row 2: (2, Team Rockers)

Row 3: (3, Team Magnet)

Row 4: (4, Team Hurricane)

f) Show the contents of the table TEAM.

g) Now create another table below. MATCH_DETAILS and insert data as shown in table. Choose appropriate domains and constraints for each attribute.

MatchID	MatchDate	FirstTeamID	SecondTeamID	FirstTeamScore	SecondTeamScore
M1	2018-07-17	1	2	90	86
M2	2018-07-18	3	4	45	48
M3	2018-07-19	1	3	78	56
M4	2018-07-19	2	4	56	67
M5	2018-07-20	1	4	32	87
M6	2018-07-21	2	3	67	51

h) Use the **foreign key** constraint in the **MATCH_DETAILS** table with reference to **TEAM** table so that **MATCH_DETAILS** table records score of teams existing in the **TEAM** table only.

3. **Using the sports database containing two relations (TEAM, MATCH_DETAILS), answer the following relational algebra queries.**

- Retrieve the MatchID of all those matches where both the teams have scored > 70.
- Retrieve the MatchID of all those matches where FirstTeam has scored < 70 but SecondTeam has scored > 70.
- Find out the MatchID and date of matches played by Team 1 and won by it.
- Find out the MatchID of matches played by Team 2 and not won by it.
- In the TEAM relation, change the name of the relation to T_DATA. Also change the attributes TeamID and TeamName to T_ID and T_NAME respectively.

4. Create a database called STUDENT_PROJECT having the following tables. Choose appropriate data type and apply necessary constraints.

Table: STUDENT

RollNo	Name	Stream	Section	RegistrationID
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* The values in Stream column can be either Science, Commerce, or Humanities.

* The values in Section column can be either I or II.

Table: PROJECT_ASSIGNED

RegistrationID	ProjectID	AssignDate
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Table: PROJECT

ProjectID	ProjectName	SubmissionDate	TeamSize	GuideTeacher
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- Populate these tables with appropriate data.
 - Write SQL queries for the following.
 - Find the names of students in Science Stream.
 - What will be the primary keys of the three tables?
 - What are the foreign keys of the three relations?
 - Finds names of all the students studying in class 'Commerce stream' and are guided by same teacher, even if they are assigned different projects.
5. An organization ABC maintains a database EMP-DEPENDENT to record the following details about its employees and their dependents.

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EMPLOYEE(AadhaarNo, Name, Address, Department, EmpID)
DEPENDENT(EmpID, DependentName, Relationship)
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Use the EMP-DEPENDENT database to answer the following SQL queries:

- Find the names of employees with their dependent names.
 - Find employee details working in a department, say, **'PRODUCTION'**.
 - Find employee names having no dependent
6. Find names of employees working in a department, say, **'SALES'** and having exactly two dependents.

Table : **EMPLOYEE**

EMPLOYEEID	NAME	SALES	JOBID
E1	SUMIT SINHA	1100000	102
E2	VIJAY SINGH TOMAR	1300000	101
E3	AJAY RAJPAL	1400000	103
E4	MOHIT RAMNANI	1250000	102
E5	SHAILJA SINGH	1450000	103

Table : **JOB**

JOBID	JOBTITLE	SALARY
101	President	200000
102	Vice President	125000
103	Administration Assistant	80000
104	Accounting Manager	70000
105	Accountant	65000
106	Sales Manager	80000

Write SQL Queries for the following :

- To display employee ids, names of employees, job ids with corresponding job titles.
- To display names of employees, sales and corresponding job titles who have achieved sales more than 1300000.
- To display names and corresponding job titles of those employees who have 'SINGH' (anywhere) in their names.
- Identify foreign key in the table EMPLOYEE.
- Write SQL command to change the JOBID to 104 of the EMPLOYEE with ID as E4 in the table 'EMPLOYEE'.