DBMS ASSIGNMENT – 6

***Roll Number: U19CS012***

***Name: BHAGYA VINOD RANA***

1.) Create the Following Table

A.) Employee

|  |  |
| --- | --- |
| Attribute | Information |
| Empno | Identifies the Employee’s |
| Emp\_name | Employee name & Cannot be blank |
| Emp\_Join\_Date | Date of Join of employee & Default is the system date |
| Emp\_Status | Employee status & Can be either P, C or R |

B.) Project

|  |  |
| --- | --- |
| Attribute | Information |
| Project\_Code | Identifies the projects |
| Project\_Description | Name of the project. Cannot be blank and have to be unique |
| Project\_Start\_Date | Start date of the project. Cannot be blank |
| Project\_End\_Date | End date of the project |

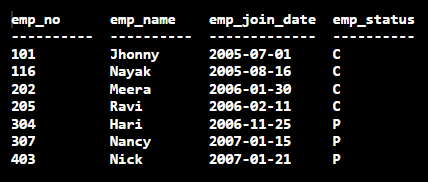
C.) Project Allocation

|  |  |
| --- | --- |
| Attribute | Information |
| Project Code | Project Code |
| Empno | Employee number |
| Emp\_Proj\_Alloc\_Date | Employee project allocation date |
| Emp\_Proj\_Release\_Date | Employee project release date |

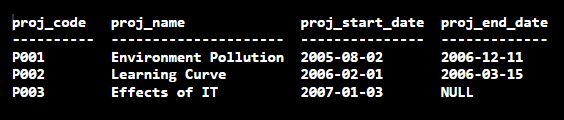
Insert the Given Data into the Database.

**Initial Table:**

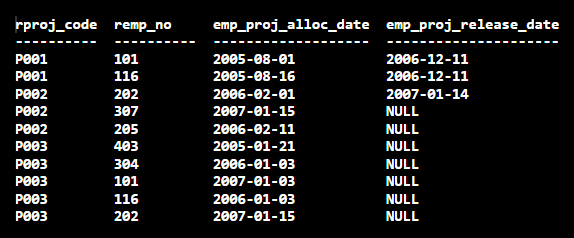
**EMPLOYEE TABLE**



**PROJECT TABLE**



**PROJECT\_ALLOCATION TABLE**



**SQL-Code [**SQLite 3.29.0**]:**

BEGIN TRANSACTION;

CREATE TABLE EMPLOYEE(

    emp\_no INTEGER PRIMARY KEY,

    emp\_name TEXT NOT NULL,

*-- YEAR MONTH DAY [Important Mistake]*

    emp\_join\_date DATE DEFAULT CURRENT\_DATE,

    emp\_status VARCHAR(1)

*-- No Semicolon at End of Last Attribute*

);

CREATE TABLE PROJECT(

    proj\_code TEXT PRIMARY KEY,

    proj\_name TEXT NOT NULL UNIQUE,

*-- YEAR MONTH DAY [Important Mistake]*

    proj\_start\_date DATE NOT NULL,

    proj\_end\_date DATE

*-- No Semicolon at End of Last Attribute*

);

CREATE TABLE PROJ\_ALLOC(

    rproj\_code TEXT,

    remp\_no  INTEGER,

*-- YEAR MONTH DAY [Important Mistake]*

    emp\_proj\_alloc\_date DATE,

    emp\_proj\_release\_date DATE

*-- No Semicolon at End of Last Attribute*

);

INSERT INTO EMPLOYEE VALUES(101, 'Jhonny', '2005-07-01', 'C');

INSERT INTO EMPLOYEE VALUES(116, 'Nayak', '2005-08-16', 'C');

INSERT INTO EMPLOYEE VALUES(202, 'Meera', '2006-01-30', 'C');

INSERT INTO EMPLOYEE VALUES(205, 'Ravi', '2006-02-11', 'C');

INSERT INTO EMPLOYEE VALUES(304, 'Hari', '2006-11-25', 'P');

INSERT INTO EMPLOYEE VALUES(307, 'Nancy', '2007-01-15', 'P');

INSERT INTO EMPLOYEE VALUES(403, 'Nick', '2007-01-21', 'P');

INSERT INTO PROJECT VALUES('P001', 'Environment Pollution', '2005-08-02', '2006-12-11');

INSERT INTO PROJECT VALUES('P002', 'Learning Curve', '2006-02-01', '2006-03-15');

INSERT INTO PROJECT VALUES('P003', 'Effects of IT', '2007-01-03', NULL);

INSERT INTO PROJ\_ALLOC VALUES('P001', 101, '2005-08-01', '2006-12-11');

INSERT INTO PROJ\_ALLOC VALUES('P001', 116, '2005-08-16', '2006-12-11');

INSERT INTO PROJ\_ALLOC VALUES('P002', 202, '2006-02-01', '2007-01-14');

INSERT INTO PROJ\_ALLOC VALUES('P002', 307, '2007-01-15', NULL);

INSERT INTO PROJ\_ALLOC VALUES('P002', 205, '2006-02-11', NULL);

INSERT INTO PROJ\_ALLOC VALUES('P003', 403, '2005-01-21', NULL);

INSERT INTO PROJ\_ALLOC VALUES('P003', 304, '2006-01-03', NULL);

INSERT INTO PROJ\_ALLOC VALUES('P003', 101, '2007-01-03', NULL);

INSERT INTO PROJ\_ALLOC VALUES('P003', 116, '2006-01-03', NULL);

INSERT INTO PROJ\_ALLOC VALUES('P003', 202, '2007-01-15', NULL);

*-- Saving the Work*

COMMIT;

*-------------------------------------------------------------------*

*-- For Output Formatting [Human Understandable Form] in SQLite*

.mode column

.headers on

.separator ROW "\n"

.nullvalue NULL

*-------------------------------------------------------------------*

*-- SELECT \* FROM EMPLOYEE;*

*-- SELECT \* FROM PROJECT;*

*-- SELECT \* FROM PROJ\_ALLOC;*

*-- 1. List all the project names along with the employee names to whom the project is assigned.*

SELECT DISTINCT P.proj\_name AS PROJECT\_NAME,E.emp\_name AS EMPLOYEE\_NAME

FROM EMPLOYEE E, PROJECT P, PROJ\_ALLOC R

WHERE (E.emp\_no = R.remp\_no) AND (P.proj\_code = R.rproj\_code)

ORDER BY P.proj\_code;

*-- 2. Display the name of employees whose status is confirmed.*

SELECT emp\_name AS EMPLOYEE\_NAME

FROM EMPLOYEE

WHERE emp\_status='C';

*-- For Checking*

SELECT emp\_name AS EMPLOYEE\_NAME,emp\_status AS EMPLOYEE\_STATUS

FROM EMPLOYEE

WHERE emp\_status='C';

*-- 3. List the employees who have joined in the month of November.*

SELECT \*

FROM EMPLOYEE

WHERE strftime('%m',emp\_join\_date) = '11';

*-- 4. List the projects which have started after 1st Jan 2006.*

SELECT \*

FROM PROJECT

WHERE proj\_start\_date>'2006-01-01';

*-- 5. List all the employees who are working for the project entitled ‘Effects of IT’.*

SELECT E.emp\_no AS EMPLOYEE\_NO, E.emp\_name AS EMPLOYEE\_NAME

FROM EMPLOYEE E, PROJECT P,PROJ\_ALLOC R

WHERE (P.proj\_name = 'Effects of IT') AND (P.proj\_code = R.rproj\_code) AND (R.remp\_no = E.emp\_no);

*-- 6. List all the projects that are not yet completed.*

SELECT \*

FROM PROJECT

WHERE proj\_end\_date IS NULL;

*-- 7. Display the Employees who are released from project having code P002.*

SELECT E.emp\_no AS EMPLOYEE\_NO, E.emp\_name AS EMPLOYEE\_NAME

FROM EMPLOYEE E, PROJECT P, PROJ\_ALLOC R

WHERE (P.proj\_code = 'P002') AND (R.emp\_proj\_release\_date IS NOT NULL) AND (P.proj\_code = R.rproj\_code) AND (R.remp\_no = E.emp\_no);

*-- 8. Count and display the number of days it took for the completion of project P002.*

SELECT (julianday(proj\_end\_date)-julianday(proj\_start\_date)) AS DAYS\_TAKEN\_P002

FROM PROJECT

WHERE proj\_code='P002';

*-- 9. List the name of employees along with the number of days they have worked for projects allocated to them.*

SELECT E.emp\_no,E.emp\_name,P.proj\_name,(CASE

    WHEN  R.emp\_proj\_release\_date IS NOT NULL

        THEN (julianday(R.emp\_proj\_release\_date)-julianday(R.emp\_proj\_alloc\_date))

*-- Any Reference Date can be Chosen, Here 1st Jan, 2009*

    ELSE (julianday('2009-01-01')-julianday(R.emp\_proj\_alloc\_date))

        END) AS DAYS\_TAKEN

FROM EMPLOYEE E, PROJECT P, PROJ\_ALLOC R

WHERE (P.proj\_code = R.rproj\_code) AND (R.remp\_no = E.emp\_no);

*-- 10. Add a column Manager\_id in the Projects table.*

*-- <NOT TO BE COMMENTED>*

ALTER TABLE PROJECT ADD manager\_id;

*-- SELECT \* FROM PROJECT;*

*-- 11. Update the Projects table with the following data:*

*-- Don't Forget to Uncomment the Query 10 to add manager\_id to Table [Online Editor]*

*-- <NOT TO BE COMMENTED>*

UPDATE PROJECT SET manager\_id = 101 WHERE proj\_code = 'P001';

UPDATE PROJECT SET manager\_id = 202 WHERE proj\_code = 'P002';

UPDATE PROJECT SET manager\_id = 116 WHERE proj\_code = 'P003';

*-- SELECT \* FROM PROJECT;*

*-- 12. A new project entitled “Election Rage” which will be starting on 1st March 2007 has been received.*

*--  Add these details in Projects table.*

*-- <NOT TO BE COMMENTED>*

INSERT INTO PROJECT (proj\_code, proj\_name, proj\_start\_date) VALUES('P004','Election Rage','2007-03-01');

*-- SELECT \* FROM PROJECT;*

*-- 13. Project named “Effects of IT” is cancelled. Remove its details from the Projects table.*

*-- DELETE FROM PROJECT WHERE proj\_name='Effects of IT';*

*-- SELECT \* FROM PROJECT;*

*-- 14. List the projects with a time duration of more than 13 months [1yr + 1 month = 365 + 30 days = 395 days].*

SELECT P.proj\_code, P.proj\_name, Q.DAYS\_TAKEN/30 AS 'AVERAGE MONTHS'

FROM PROJECT AS P, (

    SELECT P1.proj\_code,( CASE

    WHEN P1.proj\_end\_date IS NOT NULL

        THEN (julianday(P1.proj\_end\_date)-julianday(P1.proj\_start\_date))

    ELSE

        (julianday('2009-01-01')-julianday(P1.proj\_start\_date))

    END) AS DAYS\_TAKEN

    FROM PROJECT AS P1

) AS Q

WHERE (DAYS\_TAKEN>(394)) AND (Q.proj\_code = P.proj\_code);

*-- 15. List the number of employees, project wise who have worked on the project in Feb – 2007.*

SELECT P.proj\_code, P.proj\_name, COUNT(FEB\_WORK.remp\_no) AS NUMBER\_OF\_EMPLOYEES

FROM (

    SELECT remp\_no, rproj\_code

    FROM PROJ\_ALLOC

    WHERE (emp\_proj\_alloc\_date <= '2007-02-01') AND ((emp\_proj\_release\_date IS NULL) OR (emp\_proj\_release\_date>='2007-02-28'))

) AS FEB\_WORK, PROJECT AS P

WHERE (FEB\_WORK.rproj\_code = P.proj\_code) GROUP BY FEB\_WORK.rproj\_code;

**Q. Write queries for the following:**

1. List all the project names along with the employee names to whom the project is assigned.

**Query:**

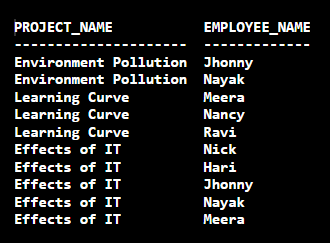
SELECT DISTINCT P.proj\_name AS PROJECT\_NAME,E.emp\_name AS EMPLOYEE\_NAME

FROM EMPLOYEE E, PROJECT P, PROJ\_ALLOC R

WHERE (E.emp\_no = R.remp\_no) AND (P.proj\_code = R.rproj\_code)

ORDER BY P.proj\_code;

**Output:**



2. Display the name of employees whose status is confirmed.

**Query:**

SELECT emp\_name AS EMPLOYEE\_NAME

FROM EMPLOYEE

WHERE emp\_status='C';

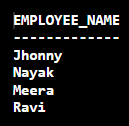
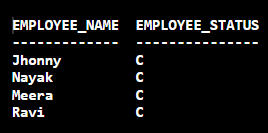
**For Checking:**

SELECT emp\_name AS EMPLOYEE\_NAME,emp\_status AS EMPLOYEE\_STATUS

FROM EMPLOYEE

WHERE emp\_status='C';

**Output:**

3. List the employees who have joined in the month of November.

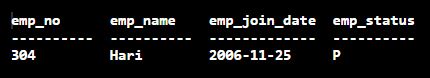
**Query:**

SELECT \*

FROM EMPLOYEE

WHERE strftime('%m',emp\_join\_date) = '11';

**Output:**



4. List the projects which have started after 1st Jan 2006.

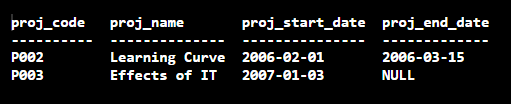
**Query:**

SELECT \*

FROM PROJECT

WHERE proj\_start\_date>'2006-01-01';

**Output:**



5. List all the employees who are working for the project entitled ‘Effects of IT’.

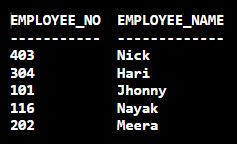
**Query:**

SELECT E.emp\_no AS EMPLOYEE\_NO, E.emp\_name AS EMPLOYEE\_NAME

FROM EMPLOYEE E, PROJECT P,PROJ\_ALLOC R

WHERE (P.proj\_name = 'Effects of IT') AND (P.proj\_code = R.rproj\_code) AND (R.remp\_no = E.emp\_no);

**Output:**

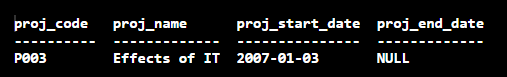


6. List all the projects that are not yet completed.

**Query:**

SELECT \* FROM PROJECT WHERE proj\_end\_date IS NULL;

**Output:**



7. Display the Employees who are released from project having code P002.

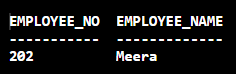
**Query:**

SELECT E.emp\_no AS EMPLOYEE\_NO, E.emp\_name AS EMPLOYEE\_NAME

FROM EMPLOYEE E, PROJECT P, PROJ\_ALLOC R

WHERE (P.proj\_code = 'P002') AND (R.emp\_proj\_release\_date IS NOT NULL) AND (P.proj\_code = R.rproj\_code) AND (R.remp\_no = E.emp\_no);

**Output:**



8. Count and display the number of days it took for the completion of project P002.

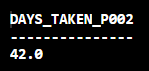
**Query:**

SELECT (julianday(proj\_end\_date)-julianday(proj\_start\_date)) AS DAYS\_TAKEN\_P002

FROM PROJECT

WHERE proj\_code='P002';

**Output:**



9. List the name of employees along with the number of days they have worked for projects allocated to them.

**Query:**

SELECT E.emp\_no,E.emp\_name,P.proj\_name,(CASE

    WHEN  R.emp\_proj\_release\_date IS NOT NULL

        THEN (julianday(R.emp\_proj\_release\_date)-julianday(R.emp\_proj\_alloc\_date))

*-- Any Reference Date can be Chosen, Here 1st Jan, 2009*

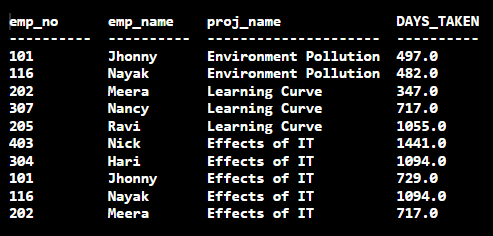
    ELSE (julianday('2009-01-01')-julianday(R.emp\_proj\_alloc\_date))

        END) AS DAYS\_TAKEN

FROM EMPLOYEE E, PROJECT P, PROJ\_ALLOC R

WHERE (P.proj\_code = R.rproj\_code) AND (R.remp\_no = E.emp\_no);

**Output:**



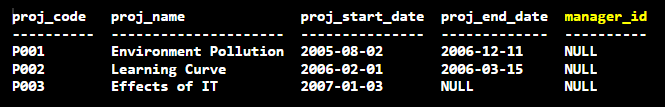
10. Add a column Manager\_id in the Projects table.

**Query:**

ALTER TABLE PROJECT ADD manager\_id;

SELECT \* FROM PROJECT;

**Output:**



11. Update the Projects table with the following data:

|  |  |
| --- | --- |
| Project\_Code | Manager\_ID |
| P001 | 101 |
| P002 | 202 |
| P003 | 116 |

**Query:**

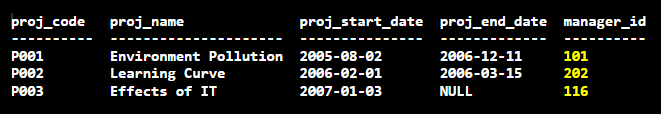
UPDATE PROJECT SET manager\_id = 101 WHERE proj\_code = 'P001';

UPDATE PROJECT SET manager\_id = 202 WHERE proj\_code = 'P002';

UPDATE PROJECT SET manager\_id = 116 WHERE proj\_code = 'P003';

SELECT \* FROM PROJECT;

**Output:**



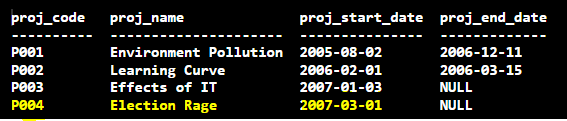
12. A new project entitled “Election Rage” which will be starting on 1st March 2007 has been received. Add these details in Projects table.

**Query:**

INSERT INTO PROJECT (proj\_code, proj\_name, proj\_start\_date) VALUES('P004','Election Rage','2007-03-01');

SELECT \* FROM PROJECT;

**Output:**



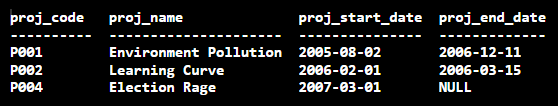
13. Project named “Effects of IT” is cancelled. Remove its details from the Projects table.

**Query:**

DELETE FROM PROJECT WHERE proj\_name='Effects of IT';

SELECT \* FROM PROJECT;

**Output:**



14. List the projects with a time duration of more than 13 months.

**Query:**

SELECT P.proj\_code, P.proj\_name, Q.DAYS\_TAKEN/30 AS 'AVERAGE MONTHS'

FROM PROJECT AS P, (

    SELECT P1.proj\_code,( CASE

    WHEN P1.proj\_end\_date IS NOT NULL

        THEN (julianday(P1.proj\_end\_date)-julianday(P1.proj\_start\_date))

    ELSE

        (julianday('2009-01-01')-julianday(P1.proj\_start\_date))

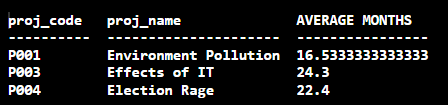
    END) AS DAYS\_TAKEN

    FROM PROJECT AS P1

) AS Q

WHERE (DAYS\_TAKEN>(394)) AND (Q.proj\_code = P.proj\_code);

**Output:**



15. List the number of employees, project wise who have worked on the project in Feb – 2007. [Question 13 Query Commented]

**Query:**

SELECT P.proj\_code, P.proj\_name, COUNT(FEB\_WORK.remp\_no) AS NUMBER\_OF\_EMPLOYEES

FROM (

    SELECT remp\_no, rproj\_code

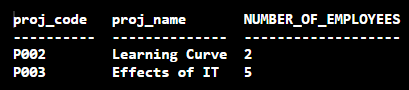
    FROM PROJ\_ALLOC

    WHERE (emp\_proj\_alloc\_date <= '2007-02-01') AND ((emp\_proj\_release\_date IS NULL) OR (emp\_proj\_release\_date>='2007-02-28'))

) AS FEB\_WORK, PROJECT AS P

WHERE (FEB\_WORK.rproj\_code = P.proj\_code) GROUP BY FEB\_WORK.rproj\_code;

**Output:**



**Submitted By:**

**BHAGYA VINOD RANA**

**U19CS012**