[CREATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-database.html" \t "mysql_doc) [DATABASE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-database.html) company;  
[CREATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-table.html) [TABLE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-table.html) projects ( id INT PRIMARY KEY, name VARCHAR(255), starting\_date DATE, Expiry\_date DATE, budget BIGINT, id\_managers INT );  
[INSERT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/insert.html) INTO projects (id, name, starting\_date, Expiry\_date, budget, id\_managers) [VALUES](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/miscellaneous-functions.html%23function_values) (1, 'proj1', '2019-05-01', '2023-05-02', 800000, 1), (2, 'proj2', '2020-10-02', '2025-10-03', 1000000, 2), (3, 'proj3','2021-05-08', '2023-05-09', 1200000, 3), (4, 'proj4', '2022-05-01', '2024-05-02', 750000, 4), (5, 'proj5','2022-10-02', '2024-10-03', 500000, 5), (6, 'proj6','2023-05-08', '2027-05-09', 2000000, 6);  
[CREATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-table.html) [TABLE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-table.html) managers ( id INT PRIMARY KEY, name VARCHAR(255), specialty VARCHAR(255), salary INT );  
[INSERT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/insert.html) INTO managers (id, name, specialty, salary) [VALUES](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/miscellaneous-functions.html%23function_values) (1, 'ahmed', 'administration', 1000), (2, 'ali', 'engineering', 1200), (3, 'sami', 'information systems', 1250), (4, 'mahmoud', 'administration', 1400), (5, 'rami', 'engineering', 1500), (6, 'Aimen', 'engineering', 1300);  
[CREATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-table.html) [TABLE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-table.html) Worker ( id INT PRIMARY KEY, name VARCHAR(255), age INT, salary INT, id\_project INT, id\_engineers INT, responsible\_id INT );  
[INSERT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/insert.html) INTO Worker (id, name, age, salary, id\_project, id\_engineers, responsible\_id) [VALUES](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/miscellaneous-functions.html%23function_values) (1, 'Khalid', 25, 1000, 5, 5, 2), (2, 'ali', 30, 1200, 4, 4, 1), (3, 'Mohammed', 20, 1250, 2, 2, 2), (4, 'mahmoud', 23, 1400, 3, 3, 3), (5, 'rami', 27, 1500, 1, 1, 4), (6, 'Yahya', 24, 1300, 2, 2, 1);  
[CREATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-table.html) [TABLE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-table.html) engineers ( id INT PRIMARY KEY, name VARCHAR(255), specialty VARCHAR(255), salary INT, age INT );  
[INSERT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/insert.html) INTO engineers (id, name, specialty, salary, age) [VALUES](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/miscellaneous-functions.html%23function_values) (1, 'mahmoud', 'architectural', 1000, 30), (2, 'Faiz', 'architectural', 1200, 40), (3, 'Fadi', 'design', 1250, 45), (4, 'mahmoud', 'electricity', 1400, 33), (5, 'rami', 'design', 1500, 32), (6, 'ahmed', 'electricity', 1300, 28);  
[CREATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-table.html) [TABLE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-table.html) Proj\_eng ( id\_projects INT PRIMARY KEY, id\_engineers INT, hours INT );  
[INSERT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/insert.html) INTO Proj\_eng (id\_projects, id\_engineers, hours) [VALUES](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/miscellaneous-functions.html%23function_values) (1, 5, 10), (2, 3, 15), (3, 2, 20), (4, 1, 50), (5, 4, 50), (6, 6, 25);  
  
ثانياً:  
1- [UPDATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/update.html) worker [SET](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/set.html) name = 'fadi' WHERE name = 'Mohammed';  
2- [DELETE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/delete.html) FROM managers WHERE name = 'sami';  
3- [ALTER](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/alter-table.html) [TABLE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/alter-table.html) projects ADD COLUMN address VARCHAR(255) [DEFAULT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/miscellaneous-functions.html%23function_default) 'gaza';  
4- [ALTER](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/alter-table.html) [TABLE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/alter-table.html) engineers ADD CONSTRAINT check\_age CHECK (age > 25);  
  
ثالثاً:  
1- Create view Q01 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) name, salary FROM worker WHERE salary >= 1250;  
2- Create view Q02 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) w.name AS worker\_name, m.name AS responsible\_name FROM worker w JOIN managers m ON w.responsible\_id = m.id;  
3- Create view Q03 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) p.name AS project\_name, [COUNT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_count)(w.id) AS worker\_count FROM projects p [LEFT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/string-functions.html%23function_left) JOIN worker w ON p.id = w.id\_project GROUP BY p.id;  
4- Create view Q04 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) name, age FROM engineers ORDER BY age DESC;  
5- Create view Q05 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) w.name AS worker\_name, p.name AS project\_name FROM worker w JOIN projects p ON w.id\_project = p.id WHERE p.budget > 750000;  
6- Create view Q06 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) \* FROM engineers WHERE salary > 1400 [AND](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_and) age BETWEEN 30 [AND](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_and) 40;

7- Create view Q07 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) name FROM managers WHERE (name [LIKE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/string-comparison-functions.html%23operator_like) 'A%' [OR](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_or) name [LIKE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/string-comparison-functions.html%23operator_like) 'L%') [AND](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_and) salary > 30;  
8- Create view Q08 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) w.name AS worker\_name FROM worker w JOIN projects p ON w.id\_project = p.id WHERE p.budget > 500000 ORDER BY p.budget;  
9- [CREATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-view.html) [VIEW](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/create-view.html) Q09 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) managers.name AS manager\_name, projects.name AS project\_name FROM managers JOIN projects ON managers.id = projects.id\_managers;

10- Create view Q10 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) \* FROM worker WHERE salary > ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) [AVG](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_avg)(salary) FROM worker);  
11- Create view Q11 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) \* FROM engineers WHERE salary = ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) [MAX](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_max)(salary) FROM engineers);  
12- Create view Q12 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) \* FROM engineers WHERE age > 30 [AND](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_and) salary > ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) [AVG](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_avg)(salary) FROM engineers);  
13- Create view Q13 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) \* FROM projects WHERE expiry\_date = '2024-05-05';  
14- Create view Q14 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) \* FROM projects WHERE starting\_date > '2020-01-01' [AND](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_and) Expiry\_date < '2025-01-01';  
15- Create view Q15 AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) p.name AS project\_name, e.name AS engineer\_name, pe.hours AS work\_hours FROM projects p JOIN Proj\_eng pe ON p.id = pe.id\_projects JOIN engineers e ON e.id = pe.id\_engineers;