'CONSTRUCTION COMPANY MANAGEMENT SYSTEM'

ABSTRACT:

Construction is the process of constructing a building or infrastructure. Construction differs from manufacturing. Manufacturing typically involves mass production of similar items without a designated purchaser, while construction typically takes place on location for a known client.

Construction is directly tied to the fields of civil engineering and architecture. A construction company is responsible for building structures in the commercial and private sectors.

In simple words, we can say that a construction company is a type of business, enterprise, or similar organization created and operating to construct a wide variety of buildings, developments, housing, path, pavement, roads, motorways, and other types of construction projects.

A construction company involves lot of parameters like details of projects, employees, machinaries and raw materials.

A good management system will reduce the tedious work of managing various factors in a Construction company.

OBJECTIVE:

1. The company will be able to easily track the details of projects, employees, machinaries and raw materials.

2. It will give a proper relation regarding which employees are working in which projects.

3. It will give details regarding how many raw materials are being allocated to each project.

4. It will help in tracking the machinaries linked to each project.

STRUCTURE OF TABLES

PROJECTS:

This table contains the details of all the projects that are completed, going on and will be started in the coming future along with their locations and expected cost.

```
MariaDB [project_1]> desc projects;
+------------------------------+-------------+------+-----+---------+-------+
| Field                        | Type        | Null | Key | Default | Extra |
+------------------------------+-------------+------+-----+---------+-------+
| SlNo                         | int(11)     | YES  |     | NULL    |       |
| Project_No                   | int(11)     | NO   | PRI | NULL    |       |
| Type_of_Project              | varchar(40) | YES  |     | NULL    |       |
| Place                        | varchar(40) | YES  |     | NULL    |       |
| Start_Date                   | varchar(20) | YES  |     | NULL    |       |
| Expected_Duration_in_Months  | int(11)     | YES  |     | NULL    |       |
| Expected_Cost_in_Lakh_Rupees | int(11)     | YES  |     | NULL    |       |
+------------------------------+-------------+------+-----+---------+-------+
7 rows in set (0.007 sec)
```

EMPLOYEES:

This table contains the details of all the employees such as their name, age, department and salary.

```
MariaDB [project_1]> desc employees;
+-----------------+-------------+------+-----+---------+-------+
| Field           | Type        | Null | Key | Default | Extra |
+-----------------+-------------+------+-----+---------+-------+
| SlNo            | int(11)     | YES  |     | NULL    |       |
| emp_id          | int(11)     | NO   | PRI | NULL    |       |
| Name            | varchar(40) | YES  |     | NULL    |       |
| Age             | int(11)     | YES  |     | NULL    |       |
| Nature_of_work  | varchar(20) | YES  |     | NULL    |       |
| Department      | varchar(20) | YES  |     | NULL    |       |
| designation     | varchar(20) | YES  |     | NULL    |       |
| salary_per_month| int(11)     | YES  |     | NULL    |       |
| Project_No      | int(11)     | YES  | MUL | NULL    |       |
+-----------------+-------------+------+-----+---------+-------+
9 rows in set (0.008 sec)
```

MACHINERIES:

This table contains the details of all the machine equipments such as theiry type, their rent and how many are available in the company.

```
MariaDB [project_1]> desc machineries;
+----------------------+-------------+------+-----+---------+-------+
| Field                | Type        | Null | Key | Default | Extra |
+----------------------+-------------+------+-----+---------+-------+
| SlNo                 | int(11)     | YES  |     | NULL    |       |
| Machine_no           | int(11)     | NO   | PRI | NULL    |       |
| Type_of_Machine      | varchar(30) | YES  |     | NULL    |       |
| Rent_per_day_in_rupees | int(11)   | YES  |     | NULL    |       |
| qty                  | int(11)     | YES  |     | NULL    |       |
| Project_No           | int(11)     | YES  | MUL | NULL    |       |
+----------------------+-------------+------+-----+---------+-------+
6 rows in set (0.007 sec)
```

RAW MATERIALS:

This table contains the details of all the raw materials such as type, cost, source and quantity available.

```
MariaDB [project_1]> desc raw_materials;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| SlNo          | int(11)     | YES  |     | NULL    |       |
| rm_no         | int(11)     | NO   | PRI | NULL    |       |
| Name          | varchar(30) | YES  |     | NULL    |       |
| qty_avlb      | int(11)     | YES  |     | NULL    |       |
| price_per_qty | int(11)     | YES  |     | NULL    |       |
| source        | varchar(20) | YES  |     | NULL    |       |
| ROL           | int(11)     | YES  |     | NULL    |       |
| Project_No    | int(11)     | YES  | MUL | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
8 rows in set (0.007 sec)
```

CONTENTS OF TABLES

PROJECTS:

```
MariaDB [project_1]> select*from projects;
```

SlNo	Project_No	Type_of_Project	Place	Start_Date	duration_months	cost_lakhs
1	1001	commercial_building	thane	2020-10-23	48	4000
2	1002	complex	mulund	2021-08-03	36	4400
3	1003	residential_building	dadar	2022-05-12	28	3000
4	1004	hotel	kalyan	2019-12-12	36	200
5	1005	hospital	pune	2016-12-14	0	1500
6	1006	school	ambernath	2012-06-06	0	1000
7	1007	embassy	pune	2021-09-21	48	2500
8	1008	parliament	new_delhi	2021-12-31	40	5500
9	1009	bus_depot	indore	2023-05-01	24	4000
10	1010	naval_facility	panjim	2019-02-23	60	7500
11	1011	reconst_post_earthquake	jaipur	2021-07-12	20	1000
12	1012	commercial_building	bangalore	2021-08-06	28	2000
13	1013	complex	panjim	2021-02-17	10	1000
14	1014	residential_building	jaipur	2015-11-13	120	8000
15	1015	hostel	bangalore	2013-01-12	0	1000
16	1016	hotel	raipur	2018-08-12	21	2100
17	1017	hospital	varanasi	2017-05-12	20	2000
18	1018	school	pune	2023-05-12	24	1500
19	1019	hotel	solapur	2019-06-09	20	1800
20	1020	school	indore	2021-12-03	20	1500
21	1021	college	mulund	2019-04-23	0	1800
22	1022	complex	surat	2023-05-12	20	3000
23	1023	hotel	satara	2020-04-17	24	4500
24	1024	complex	bhopal	2015-01-27	36	4800
25	1025	college	agra	2022-10-20	34	3600

```
25 rows in set (0.000 sec)
```

EMPLOYEES:

```
MariaDB [project_1]> select*from employees;
```

SlNo	emp_id	Name	Age	Nature_of_work	Department	designation	salary_per_month	Project_No
1	701	raju	25	on_site	labour	cement_work	10000	1002
2	702	ramesh	28	on_site	labour	cement_work	12000	NULL
3	703	shyam	22	on_site	labour	cement_work	9500	NULL
4	704	anuj	27	on_site	labour	brick_work	11500	NULL
5	705	chotu	19	on_site	labour	brick_work	8500	NULL
6	706	rani	24	on_site	labour	brick_work	11500	1014
7	707	dany	31	on_site	labour	water_work	10000	1001
8	708	sheetal	38	on_site	labour	water_work	14500	NULL
9	709	farhan	24	on_site	labour	water_work	11200	1010
10	710	sajan	40	on_site	labour	paint_work	20000	NULL
11	711	lala	24	on_site	labour	paint_work	14500	NULL
12	712	pakya	22	on_site	labour	paint_work	11200	1008
13	713	kanak	24	on_site	tech	surveyor	20000	1009
14	714	chetan	25	on_site	tech	surveyor	14500	1022
15	715	ejaz	26	on_site	tech	surveyor	20000	1018
16	716	ganga	26	on_site	tech	supervisor	25000	NULL
17	717	harsh	22	on_site	tech	supervisor	22500	1012
18	718	inam	30	on_site	tech	supervisor	40000	1017
19	719	jaffer	24	on_site	tech	engineer	30000	NULL
20	720	kashyap	27	on_site	tech	engineer	35500	1007
21	721	lavanya	30	on_site	tech	engineer	50000	1020
22	722	manish	24	off_site	engineering	jr_engr	30000	NULL
23	723	naseeba	27	off_site	engineering	jr_engr	35500	1013
24	724	owasi	34	off_site	engineering	sr_engr	50000	1003
25	725	pallavi	32	off_site	engineering	jr_manager	55000	1025
26	726	qutub	35	off_site	engineering	manager	75000	1021
27	727	rajesh	44	off_site	engineering	sr_manager	85000	1016
28	728	sachin	24	off_site	hr	jr_hr	25000	NULL
29	729	tarun	25	off_site	hr	jr_hr	28000	NULL
30	730	uma	37	off_site	hr	sr_hr	55000	NULL
31	731	varsha	24	off_site	finance	jr_accountant	22000	NULL
32	732	wasim	27	off_site	finance	accountant	28000	NULL
33	733	yamuna	37	off_site	finance	sr_analyst	38000	NULL
38	738	barry	41	off_site	board	md	180000	1015
39	739	partiban	48	off_site	board	ceo	130000	1006
40	740	bharat	38	off_site	board	president	200000	1005

MACHINERIES:

```
MariaDB [project_1]> select*from machineries;
+------+------------+----------------------+----------------------+-----+------------+
| SlNo | Machine_no | Type_of_Machine      | Rent_per_day_in_rupees | qty | Project_No |
+------+------------+----------------------+----------------------+-----+------------+
|    1 |        101 | concrete_mixer_1_ton |                 4000 |   7 |       1004 |
|    2 |        102 | concrete_mixer_2_ton |                 6000 |   5 |       1009 |
|    3 |        103 | concrete_mixer_3_ton |                 8000 |   3 |       1025 |
|    4 |        104 | concrete_pump_100hp  |                 1400 |  10 |       1001 |
|    5 |        105 | concrete_pump_150hp  |                 1800 |   6 |       1012 |
|    6 |        106 | concrete_pump_200hp  |                 2300 |   3 |       1017 |
|    7 |        107 | bar_bending_machine  |                 1200 |  30 |       1014 |
|    8 |        108 | bar_cutting_machine  |                 1800 |  45 |       1008 |
|    9 |        109 | excavator_10_kg      |                10000 |  15 |       1002 |
|   10 |        110 | excavator_20_kg      |                12000 |  10 |       1007 |
|   11 |        111 | excavator_30_kg      |                15000 |   8 |       1011 |
|   12 |        112 | leveller_20_cm       |                  500 |  50 |       1016 |
|   13 |        113 | leveller_40_cm       |                  650 |  40 |       1021 |
|   14 |        114 | tower_crane_20m      |                20000 |  10 |       1024 |
|   15 |        115 | tower_crane_40m      |                30000 |   5 |       1003 |
|   16 |        116 | road_roller_0.5_ton  |                 8000 |  10 |       1022 |
|   17 |        117 | road_roller_1_ton    |                12000 |   8 |       1023 |
|   18 |        118 | grinder_100_watt     |                  450 |  20 |       1020 |
|   19 |        119 | grinder_200_watt     |                  650 |  15 |       1013 |
|   20 |        120 | garbage_dumper_1_ton |                 4000 |  25 |       1005 |
|   21 |        121 | garbage_dumper_2_ton |                 6000 |  15 |       1006 |
|   22 |        122 | welding_machine      |                 1000 |  35 |       1010 |
|   23 |        123 | tile_cutter          |                 2300 |  20 |       1015 |
|   24 |        124 | sand_mesher          |                  200 |  50 |       1019 |
|   25 |        125 | shovel               |                   50 | 125 |       1018 |
+------+------------+----------------------+----------------------+-----+------------+
25 rows in set (0.001 sec)
```

RAW MATERIALS:

```
MariaDB [project_1]> select*from raw_materials;
+------+-------+----------------------------+----------+---------------+------------------+------+------------+
| SlNo | rm_no | Name                       | qty_avlb | price_per_qty | source           | ROL  | Project_No |
+------+-------+----------------------------+----------+---------------+------------------+------+------------+
|    1 |   301 | cement_10kg_pack            |      800 |           600 | acc_cement       |  100 |       1004 |
|    2 |   302 | cement_20kg_pack            |      650 |          1000 | acc_cement       |  180 |       1009 |
|    3 |   303 | cement_10kg_pack            |      450 |           450 | ambuja_cement    |   80 |       1025 |
|    4 |   304 | fine_sand_30kg_pack         |      438 |           478 | goa_sand_company |   50 |       1001 |
|    5 |   305 | coarse_sand_40kg_pack       |      761 |           800 | andaman_sand     |  100 |       1012 |
|    6 |   306 | aggregate_light_50kg_pack   |      550 |          3500 | kolar_agg        |  100 |       1017 |
|    7 |   307 | aggregate_heavy_80kg_pack   |       85 |          7000 | apshah_agg       |  120 |       1014 |
|    8 |   308 | bricks_light_50nos_pack     |      100 |          3000 | bb_bricks_ltd    |  230 |       1008 |
|    9 |   309 | bricks_heavy_30nos_pack     |      298 |          4000 | tata_bricks      |  140 |       1002 |
|   10 |   310 | limestone_white_50kg_pack   |      100 |         10000 | ilkal_lime_works |  150 |       1007 |
|   11 |   311 | limestone_yellow_80kg_pack  |      421 |         15000 | gj_limes         |   30 |       1011 |
|   12 |   312 | white_tile_4x4_10_pack      |       81 |          8000 | kajaria          |   31 |       1016 |
|   13 |   313 | beige_tile_2x2_20_pack      |      130 |          5000 | kajaria          |   30 |       1021 |
|   14 |   314 | white_title_8x8_30_pack     |      400 |         20000 | j&j              |   50 |       1024 |
|   15 |   315 | white_paint_10_litre_pack   |       70 |          3800 | nerolac_paints   |  130 |       1003 |
|   16 |   316 | yellow_ochre_paint_20_lit_pack |  145 |          5000 | asian_paints     |   25 |       1022 |
|   17 |   317 | teak_wood_10_pack           |       28 |          4200 | nainital_woods   |   70 |       1023 |
|   18 |   318 | ply_wood_20_pack            |      470 |          6000 | sheetal_ply_works|   65 |       1020 |
|   19 |   319 | rubber_wood_10_pack         |      287 |          2800 | ram_woods        |  100 |       1013 |
|   20 |   320 | structure_steel_10kg_pack   |      800 |         15000 | tnt_steel        |  150 |       1005 |
|   21 |   321 | mild_steel_40kg_pack        |      790 |         20000 | willy_steels     |  125 |       1006 |
|   22 |   322 | pop_10kg_pack               |      128 |          6000 | laxmi_pop        |   50 |       1010 |
|   23 |   323 | pop_40kg_pack               |      200 |         24000 | laxmi_pop        |   40 |       1015 |
|   24 |   324 | grill_style1_10_pack        |      800 |          8000 | sj_works         |  100 |       1019 |
|   25 |   325 | grill_style2_20_pack        |      900 |         16000 | modi_steel_works |  125 |       1018 |
+------+-------+----------------------------+----------+---------------+------------------+------+------------+
25 rows in set (0.000 sec)
```

SUBQUERIES

MariaDB [project_1]> select emp_id,name,salary_per_month from employees where Project_No in (select Project_No from projects where Type_of_Project='hotel') having salary_per_month>25000;

```
+--------+--------+------------------+
| emp_id | name   | salary_per_month |
+--------+--------+------------------+
|    727 | rajesh |            85000 |
+--------+--------+------------------+
1 row in set (0.001 sec)
```

2.Show all the raw materials for college projects where qty available is more than 50.

MariaDB [project_1]> select*from raw_materials where Project_No in (select Project_No from projects where Type_of_Project='college') having qty_avlb>50;

```
+------+-------+---------------------+----------+---------------+---------------+------+------------+
| SlNo | rm_no | Name                | qty_avlb | price_per_qty | source        | ROL  | Project_No |
+------+-------+---------------------+----------+---------------+---------------+------+------------+
|    3 |   303 | cement_10kg_pack    |      450 |           450 | ambuja_cement |   80 |       1025 |
|   13 |   313 | beige_tile_2x2_20_pack |   130 |          5000 | kajaria       |   30 |       1021 |
+------+-------+---------------------+----------+---------------+---------------+------+------------+
2 rows in set (0.001 sec)
```

3.Show all the details of machineries and raw materials associated with projects having estimation > 5000 lakh crores.

MariaDB [project_1]> select*from machineries where Project_No in (select Project_No from projects where cost_lakhs>5000);

```
+------+------------+---------------------+-------------------------+------+------------+
| SlNo | Machine_no | Type_of_Machine     | Rent_per_day_in_rupees  | qty  | Project_No |
+------+------------+---------------------+-------------------------+------+------------+
|    7 |        107 | bar_bending_machine |                    1200 |   30 |       1014 |
|    8 |        108 | bar_cutting_machine |                    1800 |   45 |       1008 |
|   22 |        122 | welding_machine     |                    1000 |   35 |       1010 |
+------+------------+---------------------+-------------------------+------+------------+
3 rows in set (0.001 sec)
```

```
MariaDB [project_1]> select*from raw_materials where Project_No in (select Project_No
from projects where cost_lakhs>5000);
```

SlNo	rm_no	Name	qty_avlb	price_per_qty	source	ROL	Project_No
7	307	aggregate_heavy_80kg_pack	85	7000	apshah_agg	120	1014
8	308	bricks_light_50nos_pack	100	3000	bb_bricks_ltd	230	1008
22	322	pop_10kg_pack	128	6000	laxmi_pop	50	1010

```
3 rows in set (0.000 sec)
```

VIEWS

1.Create a table for employees and raw materials associated with hospital project

MariaDB [project_1]> create view hospital_emp_rm as select employees.emp_id, employees.name, employees.salary_per_month, raw_materials.rm_no, raw_materials.ROL from employees,raw_materials where employees.Project_No in (1005,1017) and raw_materials.Project_No in (1005,1017);
Query OK, 0 rows affected (0.005 sec)

MariaDB [project_1]> show tables;

```
+-----------------------+
| Tables_in_project_1   |
+-----------------------+
| complex_mul_mc        |
| complex_mul_rm        |
| emb_pune_emp          |
| emb_pune_emp_mc       |
| employees             |
| hospital_emp_rm       |
| hotel_kalyan          |
| hotel_kalyan_rm       |
| machineries           |
| pro_emp_view          |
| pro_mc_view           |
| pro_rm_view           |
| project_employees     |
| project_machine       |
| project_raw_materials |
| projects              |
| raw_materials         |
+-----------------------+
17 rows in set (0.001 sec)
```

MariaDB [project_1]> select*from hospital_emp_rm;

```
+--------+--------+-----------------+-------+------+
| emp_id | name   | salary_per_month | rm_no | ROL |
+--------+--------+-----------------+-------+------+
|    740 | bharat |          200000 |   320 |  150 |
|    718 | inam   |           40000 |   320 |  150 |
|    740 | bharat |          200000 |   306 |  100 |
|    718 | inam   |           40000 |   306 |  100 |
+--------+--------+-----------------+-------+------+
4 rows in set (0.006 sec)
```

==2.Create a table for the raw materials and machineries associated with residential building.==

MariaDB [project_1]> create view rb_rm_mc as select raw_materials.rm_no, raw_materials.name, raw_materials.ROL, machineries.Machine_no, machineries.Type_of_Machine, machineries.qty from raw_materials, machineries where raw_materials.Project_No in (1003,1014) and machineries.Project_No in (1003,1014);
Query OK, 0 rows affected (0.003 sec)

MariaDB [project_1]> show tables;

```
+-----------------------+
| Tables_in_project_1   |
+-----------------------+
| complex_mul_mc        |
| complex_mul_rm        |
| emb_pune_emp          |
| emb_pune_emp_mc       |
| employees             |
| hospital_emp_rm       |
| hotel_kalyan          |
| hotel_kalyan_rm       |
| machineries           |
| pro_emp_view          |
| pro_mc_view           |
| pro_rm_view           |
| project_employees     |
| project_machine       |
| project_raw_materials |
| projects              |
| raw_materials         |
| rb_rm_mc              |
+-----------------------+
18 rows in set (0.001 sec)
```

MariaDB [project_1]> select*from rb_rm_mc;

```
+-------+-------------------------+------+------------+--------------------+------+
| rm_no | name                    | ROL  | Machine_no | Type_of_Machine    | qty  |
+-------+-------------------------+------+------------+--------------------+------+
|   315 | white_paint_10_litre_pack | 130 |        115 | tower_crane_40m    |    5 |
|   307 | aggregate_heavy_80kg_pack | 120 |        115 | tower_crane_40m    |    5 |
|   315 | white_paint_10_litre_pack | 130 |        107 | bar_bending_machine |   30 |
|   307 | aggregate_heavy_80kg_pack | 120 |        107 | bar_bending_machine |   30 |
+-------+-------------------------+------+------------+--------------------+------+
4 rows in set (0.002 sec)
```

MariaDB [project_1]> create view cb_emp_mc as select employees.name, employees.emp_id, employees.Department, employees.Project_No, machineries.machine_no, machineries.type_of_machine, machineries.qty from employees, machineries where employees.Project_No in (1001,1012) and machineries.Project_No in (1001,1012);
Query OK, 0 rows affected (0.003 sec)

MariaDB [project_1]> show tables;

```
+----------------------+
| Tables_in_project_1  |
+----------------------+
| cb_emp_mc            |
| complex_mul_mc       |
| complex_mul_rm       |
| emb_pune_emp         |
| emb_pune_emp_mc      |
| employees            |
| hospital_emp_rm      |
| hotel_kalyan         |
| hotel_kalyan_rm      |
| machineries          |
| pro_emp_view         |
| pro_mc_view          |
| pro_rm_view          |
| project_employees    |
| project_machine      |
| project_raw_materials|
| projects             |
| raw_materials        |
| rb_rm_mc             |
+----------------------+
19 rows in set (0.001 sec)
```

MariaDB [project_1]> select*from cb_emp_mc;

```
+-------+--------+------------+------------+------------+---------------------+-----+
| name  | emp_id | Department | Project_No | machine_no | type_of_machine     | qty |
+-------+--------+------------+------------+------------+---------------------+-----+
| dany  |    707 | labour     |       1001 |        104 | concrete_pump_100hp |  10 |
| harsh |    717 | tech       |       1012 |        104 | concrete_pump_100hp |  10 |
| dany  |    707 | labour     |       1001 |        105 | concrete_pump_150hp |   6 |
| harsh |    717 | tech       |       1012 |        105 | concrete_pump_150hp |   6 |
+-------+--------+------------+------------+------------+---------------------+-----+
4 rows in set (0.006 sec)
```

<div align="center">

<mark>JOINS</mark>

</div>

<mark>1.Diplay the employee id and raw material no associated with hotel project in kalyan</mark>

MariaDB [project_1]> select hotel_kalyan.Project_No, hotel_kalyan.name, hotel_kalyan_rm.raw_material_no, hotel_kalyan_rm.source from hotel_kalyan right join hotel_kalyan_rm on hotel_kalyan.Project_No=hotel_kalyan_rm.Project_No;

```
+------------+--------+----------------+---------------+
| Project_No | name   | raw_material_no | source       |
+------------+--------+----------------+---------------+
|       1004 | raju   |            303 | ambuja_cement |
|       1004 | ramesh |            303 | ambuja_cement |
|       1004 | shyam  |            303 | ambuja_cement |
|       1004 | raju   |            306 | kolar_agg     |
|       1004 | ramesh |            306 | kolar_agg     |
|       1004 | shyam  |            306 | kolar_agg     |
|       1004 | raju   |            309 | tata_bricks   |
|       1004 | ramesh |            309 | tata_bricks   |
|       1004 | shyam  |            309 | tata_bricks   |
+------------+--------+----------------+---------------+
9 rows in set (0.001 sec)
```

<mark>2.Create full join to display all details associated with embassy project in pune</mark>

MariaDB [project_1]> select*from emb_pune_emp left join emb_pune_emp_mc on emb_pune_emp.Project_No=emb_pune_emp_mc.Project_No union select*from emb_pune_emp right join emb_pune_emp_mc on emb_pune_emp.Project_No=emb_pune_emp_mc.Project_No;

```
+--------+--------+-----+---------------+-------------+------------+-----------------+-------+--------------------+-----------+------+----------+
| emp_id | Name   | Age | Nature_of_work | Department | Project_No | Type_of_Project | Place | Type_of_Machine    | Machine_no | qty | Project_N
 | Type_of_Project | Place |
+--------+--------+-----+---------------+-------------+------------+-----------------+-------+--------------------+-----------+------+----------+
|    719 | jaffer |  24 | on_site       | tech        |       1007 | embassy         | pune  | excavator_20_kg    |       110 |  10 |      100
7 | embassy         | pune  |
|    719 | jaffer |  24 | on_site       | tech        |       1007 | embassy         | pune  | tower_crane_40m    |       115 |   5 |      100
7 | embassy         | pune  |
|    719 | jaffer |  24 | on_site       | tech        |       1007 | embassy         | pune  | garbage_dumper_2_ton |     121 |  15 |      100
7 | embassy         | pune  |
|    724 | owasi  |  34 | off_site      | engineering |       1007 | embassy         | pune  | excavator_20_kg    |       110 |  10 |      100
7 | embassy         | pune  |
|    724 | owasi  |  34 | off_site      | engineering |       1007 | embassy         | pune  | tower_crane_40m    |       115 |   5 |      100
7 | embassy         | pune  |
|    724 | owasi  |  34 | off_site      | engineering |       1007 | embassy         | pune  | garbage_dumper_2_ton |     121 |  15 |      100
7 | embassy         | pune  |
|    727 | rajesh |  44 | off_site      | engineering |       1007 | embassy         | pune  | excavator_20_kg    |       110 |  10 |      100
7 | embassy         | pune  |
|    727 | rajesh |  44 | off_site      | engineering |       1007 | embassy         | pune  | tower_crane_40m    |       115 |   5 |      100
7 | embassy         | pune  |
|    727 | rajesh |  44 | off_site      | engineering |       1007 | embassy         | pune  | garbage_dumper_2_ton |     121 |  15 |      100
7 | embassy         | pune  |
+--------+--------+-----+---------------+-------------+------------+-----------------+-------+--------------------+-----------+------+----------+
9 rows in set (0.004 sec)
```

MariaDB [project_1]> select complex_mul_mc.Type_of_Machine, complex_mul_mc.Machine_no, complex_mul_mc.qty, complex_mul_rm.raw_material_no, complex_mul_rm.Name, complex_mul_rm.source from complex_mul_mc inner join complex_mul_rm on complex_mul_mc.Project_No=complex_mul_rm.Project_No;

```
+--------------------+------------+-----+----------------+------------------------+--------------+
| Type_of_Machine    | Machine_no | qty | raw_material_no | Name                  | source       |
+--------------------+------------+-----+----------------+------------------------+--------------+
| bar_cutting_machine |        108 |  45 |            305 | coarse_sand_40kg_pack  | andaman_sand |
| bar_cutting_machine |        108 |  45 |            314 | white_title_8x8_30_pack | j&j         |
| bar_cutting_machine |        108 |  45 |            322 | pop_10kg_pack          | laxmi_pop    |
| tower_crane_40m    |        115 |   5 |            305 | coarse_sand_40kg_pack  | andaman_sand |
| tower_crane_40m    |        115 |   5 |            314 | white_title_8x8_30_pack | j&j         |
| tower_crane_40m    |        115 |   5 |            322 | pop_10kg_pack          | laxmi_pop    |
| welding_machine    |        122 |  35 |            305 | coarse_sand_40kg_pack  | andaman_sand |
| welding_machine    |        122 |  35 |            314 | white_title_8x8_30_pack | j&j         |
| welding_machine    |        122 |  35 |            322 | pop_10kg_pack          | laxmi_pop    |
| tile_cutter        |        123 |  20 |            305 | coarse_sand_40kg_pack  | andaman_sand |
| tile_cutter        |        123 |  20 |            314 | white_title_8x8_30_pack | j&j         |
| tile_cutter        |        123 |  20 |            322 | pop_10kg_pack          | laxmi_pop    |
+--------------------+------------+-----+----------------+------------------------+--------------+
12 rows in set (0.001 sec)
```

```
+------+------------+--------------------+-----------------------+-----+
| SlNo | Machine_no | Type_of_Machine    | Rent_per_day_in_rupees | qty |
+------+------------+--------------------+-----------------------+-----+
|    8 |        108 | bar_cutting_machine |                  1800 |  45 |
|   15 |        115 | tower_crane_40m    |                 30000 |   5 |
|   22 |        122 | welding_machine    |                  1000 |  35 |
|   23 |        123 | tile_cutter        |                  2300 |  20 |
+------+------------+--------------------+-----------------------+-----+
4 rows in set (0.001 sec)
```