Subject: Informatics Practices (065)
Topic: MySQL Queries Part-I
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Table: emp_details

Sl_No	EMP_NAME	SALARY	DOB	PHONE	DEPT
101	SAM	50000	2004-10-10	911	IT
202	RAM	30000	2006-10-12	100	SECURITY
303	BOB	80000	2003-10-10	102	HR
404	CHRIS	100000	2003-01-10	500	SALES
505	ANGELA	120000	2000-11-21	999	PURHCASE
606	ALEX	200000	1999-10-10	777	PURCHASE

Q1: Write a query to create the following table with the best & optimized data-types available.

Sol: create table emp_details(Sl_No int(6), EMP_NAME varchar(15), SALARY float(30), DOB date, PHONE bigint(10), DEPT varchar(9));

Q2: Write a query to view the structure of the table.

Sol: desc emp_details;

Q3: Write a query to insert the following data in the table.

Sol: insert into emp_details values(101, "SAM", 50000, "2004-10-10", 911, "IT"), (202, "RAM", 30000, "2006-10-12", 100, "SECURITY"), (303, "BOB", 80000, "2003-10-10", 102, "HR"), (404, "CHRIS", 100000, "2003-01-10", 500, "SALES"), (505, "ANGELA", 120000, "2000-11-21", 999, "PURCHASE"), (606, "ALEX", 200000, "1999-10-10", 777, "PURCHASE");

Q4: Write a query to display all the inserted data from the table.

Sol: select * from emp_details;

Q5: Write a query to display employee name & department.

Sol: select emp_name, dept from emp_details;

Q6: Write a query to display the name of employees who are in dept: IT, Sales & HR.

Sol: select emp_name from emp_details where dept in ("IT", "Sales", "HR");

Q7: Write a query to display the details of employees whose salary is in range 20,000 & 30,000.

Sol: select * from emp_details where salary between 20000 and 30000;

Q8: Write a query to display the details of all employees in descending order.

Sol: select * from emp_details order by sl_no desc;

Q9: Display the details of all employees whose name starts with “A”.

Sol: select * from emp_details where emp_name like "A%";

Q10: Display the details of all employees whose name ends with “A”.

Sol: select * from emp_details where emp_name like "%A";

Q11: Display the details of all employees who have “A” in between the name.

Sol: select * from emp_details where emp_name like "%A%";

Q12: Display the details of all employees who have “A” in the second character of the name.

Sol: select * from emp_details where emp_name like "_a%";

Q13: Display the detail of the oldest employee.

Sol: select * from emp_details order by dob limit 1;

Q14: Display the number of employees who have three characters in the name.

Sol: select count(*) from emp_details where length(emp_name) = 3;

Q15: Display the details. of all employees who are not in the dept: IT, HR & Sales.

Sol: select * from emp_details where dept not in ("IT", "HR", "SALES");

Q16: Display the details of all employees whose salary is greater than 80,000.

Sol: select * from emp_details where salary > 80000;

Q17: Display the details of all employees whose dept is NULL.

Sol: select * from emp_details where dept is NULL;

Q18: Display the details of all employees whose dept is not NULL.

Sol: select * from emp_details where dept is not NULL;

Q19: Display the Name & Salary of all employees with Salary column having alias name as emp_salary.

Sol: select emp_name, salary as emp_salary from emp_details;

Q20: Display all distinct dept from the table.

Sol: select distinct dept from emp_details;

Q21: Write a query to update the DOB of first employee to “2002-10-10”.

Sol: update emp_details set DOB = "2002-10-10" where Sl_No = "101";

Q22: Write a query to increment the salary of all employees by 10%.

Sol: update emp_details set salary= (salary+ (salary * 0.1));

Q23: Write a query to delete the dept of first employee.

Sol: update emp_details set DEPT = NULL where Sl_No = 101;

Q24: Write a query to delete the details of all employees who are in the sale dept.

Sol: update emp_details set DEPT = NULL where DEPT = "SALES";

Q25: Write a query to change the column name of SALARY to emp_salary.

Sol: alter table emp_details rename column SALARY to emp_salary;

Q26: Write a query to change the data-type of DEPT to char(10).

Sol: alter table emp_details modify column DEPT char(10);
or, alter table emp_details change column DEPT DEPT char(10);

Q27: Write a query to add a column email_id.

Sol: alter table emp_details add column email_id varchar(25);

Q28: Write a query to remove the column email_id.

Sol: alter table emp_details drop column email_id;

Q29: Write a query to add Primary Key constraint to the Sl_No column.

Sol: alter table emp_details add Primary Key(Sl_No);

Q30: Write a query to remove the Primary Key.

Sol: alter table emp_details drop primary key;

Q31: Write a query to add unique constraint in the Sol_No column.

Sol: alter table emp_details add unique (Sl_No);

Q32: Write a query to remove the unique constraint from Sl_No column.

Sol: alter table emp_details drop constraint Sl_No;

Q33: Write a query to add default value of 100 in the emp_salary column.

Sol: alter table emp_details alter column emp_salary set default 100;

Q34: Write a query to remove the default value from the emp_salary column.

Sol: alter table emp_details alter column emp_salary drop default;

Q35: Write a query to add a Check constraint in the column emp_salary which checks emp_salary>0 while insertion.

Sol: alter table emp_details add check (emp_salary>0);
or, alter table emp_details add constraint c1 check (emp_salary>0);

36: Write a query to remove the check constraint from emp_salary column.

Sol: alter table emp_details drop constraint <constraint_name>;
or, alter table emp_details drop constraint c1;

Q37: Write a query to create a table bank_details with the columns bank_name & account_num where account_num is the Primary Key.

Sol: create table bank_details(account_num int(15) Primary Key, bank_name varchar(30));

Q38: Write a query to add three values in the bank_details table.

Sol: insert into bank_details values(101, "BANK OF BARODA"), (202, "STATE BANK OF INDIA"), (303, "PUNJAB NATIONAL BANK");

Q39: Write a query to add column bank_acc_num in the emp_details table.

Sol: alter table emp_details add column bank_acc_num int(15);

Q40: Write a query to add Foreign Key to the column emp_details from column account_num from bank_details table.

Sol: alter table emp_details add constraint fk1 foreign key(bank_acc_num) references bank_details(account_num);

Q40: Write a query to remove the Foreign Key constraint & the Key index.

Sol:
Step 1: alter table emp_details drop constraint fk1;
Step 2: alter table emp_details drop index fk1;

Q41: Write a query to show the details of the key constraints in the emp_details table.

Sol: show create table emp_details;

Q42: Write a query to add Not Null constraint in the emp_salary column.

Sol: alter table emp_details modify emp_salary int(10) not null;

Q43: Write a query to remove the Not Null constraint from the emp_salary column.

Sol: alter table emp_details modify emp_salary int(10);

Q44: Write a query to display the details of all dept who are either in the dept IT or HR.

Sol: select * from emp_details where dept = "IT" or "HR";

Q45: Write a query to display the details of employees like name, salary & dept in such a way that if dept has any NULL value then it will display the dept name as NA. (not applicable)

Sol: select emp_name,emp_salary,ifnull(DEPT,"NA") from emp_details;