

DBMS

Database Management System

DATABASE ON EDUCATIONAL APPLICATION

SUCCESS SPHERE COACHING

Revolutionizing Education

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QUERY OUTPUTS

1) Retrieve data (Name and Mobile Number) of Instructors and Course (Course ID and Course Title) they are teaching who have more than 5 years of experience and are teaching a course in English

	i_name character varying (30) 🔒	i_mobilenumber numeric (10) 🔒	course_id character 🔒	course_title character varying (20) 🔒
1	Rajesh Sharma	9876543210	PH123	Physics
2	Vivek Patel	9966332211	PH456	Physics JEE Main
3	Anita Sharma	9876543211	PH123	Physics
4	Sachin Verma	9876543212	PH678	Physics JEE/NEET Fnd
5	Rinku Sharma	9876543213	PH678	Physics JEE/NEET Fnd
6	Neha Jain	9988776655	CH456	Chemistry JEE/NEET
7	Poonam Yadav	9876123456	MT789	Mathematics JEE
8	Ritu Shah	9876123457	MT890	Math JEE Advance
9	Akash Singh	9966332212	MT567	Math JEE Main
10	Mohit Kumar	9876234568	MT567	Math JEE Main
11	Amit Singh	9998887776	BI101	Biology NEET
12	Vivek Patel	9966332211	PH223	Physics
13	Divya Agrawal	9988776657	CH446	Chemistry JEE/NEET
14	Akash Singh	9966332212	MT777	Mathematics JEE
15	Deepak Yadav	9998887777	BI111	Biology NEET
16	Ritu Shah	9876123457	MT789	Mathematics JEE
17	Rinku Sharma	9876543213	PH123	Physics

2) Calculate the average rating for each instructor who has conducted at least one paid course registration and give the output in descending order of average rating

	instructor_id [PK] character 	i_name character varying (30) 	average_rating numeric 
1	INS18	Rinku Sharma	8.5000000000000000
2	INS14	Ritu Shah	8.3333333333333333
3	INS01	Rajesh Sharma	8.1000000000000000
4	INS13	Ankit Gupta	8.0000000000000000
5	INS03	Amit Singh	8.0000000000000000
6	INS09	Vijay Verma	8.0000000000000000
7	INS05	Vivek Patel	7.8888888888888889
8	INS07	Suresh Kumar	7.8750000000000000
9	INS08	Anita Sharma	7.8750000000000000
10	INS11	Sachin Verma	7.8333333333333333
11	INS17	Mohit Kumar	7.6363636363636364
12	INS12	Divya Agrawal	7.5000000000000000
13	INS15	Akash Singh	7.5000000000000000
14	INS02	Neha Jain	7.3076923076923077
15	INS10	Deepak Yadav	7.0000000000000000
16	INS19	Prakash Soni	6.7500000000000000
17	INS04	Poonam Yadav	6.7500000000000000




3) Give test details (test_id, total_marks, marks_obtained) of the top performing students of each test

	student_name character varying (30)	test_id character	obtained_marks numeric (5,2)	total_marks numeric (5,2)
1	Sumit Sharma	PH123T1	75.00	100.00
2	Neha Verma	PH123T1	75.00	100.00
3	Rahul Gupta	PH123T2	90.00	100.00
4	Vivek Patel	CH456T1	85.00	100.00
5	Anjali Gupta	CH456T2	85.00	100.00
6	Anil Yadav	MT789T1	95.00	100.00
7	Priyanka Reddy	MT789T2	95.00	100.00
8	Ananya Sharma	BI101T1	80.00	100.00
9	Mukesh Patel	BI101T1	80.00	100.00
10	Ananya Sharma	BI101T2	85.00	100.00
11	Mukesh Patel	BI101T2	85.00	100.00
12	Pooja Yadav	CH789T1	95.00	100.00
13	Sumit Sharma	CH789T2	95.00	100.00
14	Poonam Singh	MT890T1	95.00	100.00
15	Poonam Singh	MT890T2	95.00	100.00
16	Sonal Kumar	BI202T1	85.00	100.00
17	Ananya Sharma	BI202T1	85.00	100.00
18	Sonal Kumar	BI202T2	85.00	100.00
19	Ananya Sharma	BI202T2	85.00	100.00
20	Vivek Patel	PH456T1	90.00	100.00
21	Rahul Sharma	PH456T1	90.00	100.00
22	Vivek Patel	PH456T2	90.00	100.00
23	Rahul Sharma	PH456T2	90.00	100.00
24	Ananya Sharma	MT567T1	95.00	100.00
25	Ananya Sharma	MT567T2	95.00	100.00
26	Mukesh Patel	BI345T1	90.00	100.00
27	Mukesh Patel	BI345T2	90.00	100.00
28	Poonam Singh	PH678T1	95.00	100.00
29	Poonam Singh	PH678T2	95.00	100.00
30	Rahul Gupta	CH123T1	80.00	100.00
31	Suresh Kumar	CH123T1	80.00	100.00
32	Rahul Gupta	CH123T2	80.00	100.00
33	Suresh Kumar	CH123T2	80.00	100.00


4) Give details (course_name, course_id, instructor_id, instructor_name) of the courses offered having number of students registered in each of those courses being greater than 10

	course_title character varying (20) 🔒	course_id character 🔒	instructor_name character varying (30) 🔒	instructor_id character 🔒	registered_students bigint 🔒
1	Math JEE Main	MT567	Akash Singh	INS15	17
2	Chemistry JEE/NEET	CH789	Suresh Kumar	INS07	16
3	Physics	PH123	Anita Sharma	INS08	16
4	Chemistry JEE/NEET	CH456	Neha Jain	INS02	13
5	Physics JEE/NEET Fnd	PH678	Rinku Sharma	INS18	12
6	Math JEE Main	MT567	Mohit Kumar	INS17	11



5) List the (Students, CourseID) who have attendance greater than 90% for each course they are registered in.

	student_id character 	rs_name character varying (30) 	student_name character 
1	DEF0123456	Poonam Singh	PH678
2	DEF0123456	Poonam Singh	CH456
3	CDE1234567	Ananya Sharma	BI101
4	CDE1234567	Ananya Sharma	BI202
5	DEF2345678	Anil Yadav	MT789
6	DEF2345678	Anil Yadav	MT890
7	FGH4567890	Rajesh Singh	PH123
8	FGH4567890	Rajesh Singh	MT567
9	IJK7890123	Anushka Sharma	PH123
10	IJK7890123	Anushka Sharma	PH456
11	RST5678901	Sumit Sharma	PH456
12	BCD5678901	Kirti Yadav	MT567
13	RST0123456	Deepak Sharma	CH789
14	DEF0123456	Poonam Singh	CH789
15	DEF0123456	Poonam Singh	MT567
16	DEF0123456	Poonam Singh	PH123
17	CDE1234567	Ananya Sharma	CH789
18	CDE1234567	Ananya Sharma	MT890
19	CDE1234567	Ananya Sharma	MT567
20	FGH4567890	Rajesh Singh	PH678
21	FGH4567890	Rajesh Singh	PH123
22	IJK7890123	Anushka Sharma	CH789
23	RST5678901	Sumit Sharma	CH789
24	RST5678901	Sumit Sharma	MT567
25	BCD5678901	Kirti Yadav	CH789
26	BCD5678901	Kirti Yadav	CH456
27	BCD5678901	Kirti Yadav	CH789

6) List the instructors who have not conducted any courses

	I_name character varying (30) 
1	Deepa Mishra
2	Sneha Agarwal

7) Find the students who have taken tests in all available courses

	student_id [PK] character 	student_name character varying (30) 
1	ABC1234567	Rahul Gupta
2	CDE9012345	Ankit Patil
3	DEF0123456	Poonam Singh
4	EFG1234567	Rohit Kumar
5	FGH2345678	Priya Verma
6	HIJ4567890	Sneha Reddy
7	IJK5678901	Vivek Patel
8	JKL6789012	Sakshi Sharma
9	OPQ3456789	Anjali Gupta
10	RST4567890	Vijay Sharma
11	TUV5678901	Divya Singh
12	UVW6789012	Suresh Kumar
13	VWX7890123	Anita Jain
14	XYZ8901234	Rahul Sharma
15	ABC9012345	Nidhi Reddy
16	BCD0123456	Mukesh Patel
17	CDE1234567	Ananya Sharma
18	DEF2345678	Anil Yadav
19	EFG3456789	Swati Gupta
20	GHI5678901	Sonal Kumar
21	HIJ6789012	Manish Jain
22	IJK7890123	Anushka Sharma
23	LMN9012345	Priyanka Reddy
24	OPQ0123456	Amit Patel
25	RST5678901	Sumit Sharma
26	STU6789012	Pooja Yadav
27	ABC4567890	Anil Kumar
28	DEF7890123	Neha Verma
29	EFG8901234	Vivek Sharma
30	GHI0123456	Rishi Yadav
31	JKI 3456789	Meenakshi Yadav




8) Retrieve the information of students who have not attended any doubt solving sessions

	student_name character varying (30) 	student_email character varying (40) 
1	Rahul Gupta	rahulgupta@gmail.com
2	Amit Sharma	amitsharma@gmail.com
3	Neha Jain	neha.jain@gmail.com
4	Ankit Patil	ankit.patil@gmail.com
5	Poonam Singh	poonam.singh@gmail.com
6	Rohit Kumar	rohit.kumar@gmail.com
7	Priya Verma	priya.verma@gmail.com
8	Akash Gupta	akash.gupta@gmail.com
9	Sneha Reddy	sneha.reddy@gmail.com
10	Vivek Patel	vivek.patel@gmail.com
11	Sakshi Sharma	sakshi.sharma@gmail.com
12	Anil Yadav	anil.yadav@gmail.com
13	Swati Gupta	swati.gupta@gmail.com
14	Rajesh Singh	rajesh.singh@gmail.com
15	Sonal Kumar	sonal.kumar@gmail.com
16	Manish Jain	manish.jain@gmail.com
17	Anushka Sharma	anushka.sharma@gmail.c...
18	Anil Verma	anil.verma@gmail.com
19	Priyanka Reddy	priyanka.reddy@gmail.com
20	Amit Patel	amit.patel@gmail.com

9) Find the students who have achieved consistent high performance (average marks above 80%) across all tests he has given

	student_id [PK] character 	student_name character varying (30) 
1	ABC1234567	Rahul Gupta
2	XYZ7890123	Amit Sharma
3	BCD8901234	Neha Jain
4	DEF0123456	Poonam Singh
5	EFG1234567	Rohit Kumar
6	GHI3456789	Akash Gupta
7	IJK5678901	Vivek Patel
8	LMN2345678	Deepak Yadav
9	OPQ3456789	Anjali Gupta
10	RST4567890	Vijay Sharma
11	XYZ8901234	Rahul Sharma
12	ABC9012345	Nidhi Reddy
13	BCD0123456	Mukesh Patel
14	CDE1234567	Ananya Sharma
15	DEF2345678	Anil Yadav
16	FGH4567890	Rajesh Singh
17	IJK7890123	Anushka Sharma
18	JKL8901234	Anil Verma
19	LMN9012345	Priyanka Reddy
20	PQR4567890	Anita Gupta
21	RST5678901	Sumit Sharma
22	STU6789012	Pooja Yadav
23	TUV7890123	Amrita Kumar
24	UVW8901234	Rahul Singh
25	VWX9012345	Preeti Sharma
26	WXY0123456	Vikas Yadav
27	XYZ1234567	Divya Gupta
28	YZA2345678	Sachin Jain
29	ZAB3456789	Shivani Sharma
30	ABC4567890	Anil Kumar
31	BCD5678901	Kirti Yadav
32	CDE6789012	Sandeep Singh
33	FGH9012345	Poonam Kumar
34	HIJ1234567	Swati Sharma
35	IJK2345678	Vikram Singh

10) List the free courses ordered by the number of students registered in them, with the course with the highest number of registrations appearing first

	course_id [PK] character 	course_title character varying (20) 	num_students_registered bigint 
1	CH446	Chemistry JEE/NEET	17
2	MT777	Mathematics JEE	16
3	BI111	Biology NEET	16
4	PH223	Physics	16

11) Give me number of students and assistant details who are under each assistants for a particular course and also give the course details

	assistant_id character 🔒	assistant_name character varying (30) 🔒	num_students bigint 🔒	course_id character 🔒	course_title character varying (20) 🔒
1	AS209	Deepak Sharma	18	PH678	Physics JEE/NEET Fnd
2	AS211	Divya Singh	8	MT789	Mathematics JEE
3	AS118	Vijay Kumar	5	BI345	Biology NEET Crash
4	AS001	Ravi Sharma	26	PH123	Physics
5	AS124	Poonam Gupta	6	BI202	Biology NEET Rev
6	AS012	Ankit Sharma	3	BI101	Biology NEET
7	AS105	Vivek Sharma	8	PH456	Physics JEE Main
8	AS202	Neha Singh	33	CH789	Chemistry JEE/NEET
9	AS113	Amit Verma	6	MT890	Math JEE Advance
10	AS007	Anita Verma	28	MT567	Math JEE Main




12) Retrieve the details of parents whose student has a performance greater than 8 along with all the test results for those students

	student_id character	parent_name character varying (30)	parent_mobilenumber numeric (10)	parent_email character varying (40)	test_id character	obtained_marks numeric (5,2)
1	ABC4567890	Santosh Kumar	9816123459	santosh.kumar@gmail.com	MT567T1	90.00
2	ABC4567890	Santosh Kumar	9816123459	santosh.kumar@gmail.com	MT567T2	90.00
3	ABC9012345	Nitin Reddy	9876543203	nitin.reddy@gmail.com	MT890T2	90.00
4	ABC9012345	Nitin Reddy	9876543203	nitin.reddy@gmail.com	PH678T2	90.00
5	ABC9012345	Nitin Reddy	9876543203	nitin.reddy@gmail.com	PH678T1	90.00
6	ABC9012345	Nitin Reddy	9876543203	nitin.reddy@gmail.com	MT890T1	90.00
7	CDE9012345	Ajay Patil	9998887700	ajay.patil@gmail.com	CH123T2	75.00
8	CDE9012345	Ajay Patil	9998887700	ajay.patil@gmail.com	PH456T1	85.00
9	CDE9012345	Ajay Patil	9998887700	ajay.patil@gmail.com	PH456T2	85.00
10	CDE9012345	Ajay Patil	9998887700	ajay.patil@gmail.com	MT789T1	80.00
11	CDE9012345	Ajay Patil	9998887700	ajay.patil@gmail.com	CH123T1	75.00
12	DEF2345678	Anil Yadav	9876543204	anil.yadav@gmail.com	MT789T2	90.00
13	DEF2345678	Anil Yadav	9876543204	anil.yadav@gmail.com	MT789T1	95.00
14	EFG8901234	Vinayak Sharma	9991887779	vinayak.sharma@gmail.com	BI345T1	80.00
15	EFG8901234	Vinayak Sharma	9991887779	vinayak.sharma@gmail.com	BI345T2	80.00
16	EFG8901234	Vinayak Sharma	9991887779	vinayak.sharma@gmail.com	MT789T2	80.00
17	HIJ4567890	Shivam Reddy	9876543201	shivam.reddy@gmail.com	CH456T2	65.00
18	HIJ6789012	Manish Jain	9966332202	manish.jain@gmail.com	BI202T1	75.00
19	HIJ6789012	Manish Jain	9966332202	manish.jain@gmail.com	CH456T1	75.00
20	HIJ6789012	Manish Jain	9966332202	manish.jain@gmail.com	BI202T2	75.00
21	HIJ6789012	Manish Jain	9966332202	manish.jain@gmail.com	PH678T1	80.00
22	HIJ6789012	Manish Jain	9966332202	manish.jain@gmail.com	PH678T2	80.00
23	JKL3456789	Meenesh Yadav	9198887780	meenesh.yadav@gmail.com	BI101T1	65.00
24	JKL3456789	Meenesh Yadav	9198887780	meenesh.yadav@gmail.com	BI101T2	70.00
25	MNO6789012	Adit Sharma	9988176660	adit.sharma@gmail.com	BI101T1	70.00
26	MNO6789012	Adit Sharma	9988176660	adit.sharma@gmail.com	PH456T2	80.00
27	MNO6789012	Adit Sharma	9988176660	adit.sharma@gmail.com	BI101T2	75.00
28	MNO6789012	Adit Sharma	9988176660	adit.sharma@gmail.com	PH456T1	80.00
29	OPQ0123456	Amit Patel	9988776608	amit.patel@gmail.com	BI101T1	70.00
30	OPQ0123456	Amit Patel	9988776608	amit.patel@gmail.com	BI101T2	75.00
31	OPQ0123456	Amit Patel	9988776608	amit.patel@gmail.com	MT789T2	75.00

13) Give data of those courses along with their instructor id and name which have more than 70% completion rate

	course_id character 🔒	course_title character varying (20) 🔒	instructor_id character 🔒	instructor_name character varying (30) 🔒
1	MT789	Mathematics JEE	INS04	Poonam Yadav
2	CH789	Chemistry JEE/NEET	INS07	Suresh Kumar
3	MT890	Math JEE Advance	INS14	Ritu Shah



14) Give course_ID of the courses which have more than 10 students registered in them

	course_id [PK] character 	course_title character varying (20) 	count bigint 
1	CH456	Chemistry JEE/NEET	13
2	CH789	Chemistry JEE/NEET	99
3	MT567	Math JEE Main	56
4	PH123	Physics	78
5	PH678	Physics JEE/NEET Fnd	36



15) List the city-wise toppers(student_ID, student_Name) with test-id, obtained marks.

	city character varying (20) 🔒	student_id character 🔒	rs_name character varying (30) 🔒	test_id character 🔒	obtained_marks numeric (5,2) 🔒
1	Chennai	STU1234567	Ritu Yadav	PH123T1	65.00
2	Pune	ABC1234567	Rahul Gupta	PH123T2	90.00
3	Indore	IJK7890123	Anushka Sharma	PH123T2	85.00
4	Jaipur	OPQ3456789	Anjali Gupta	CH456T2	85.00
5	Lucknow	DEF2345678	Anil Yadav	MT789T1	95.00
6	Ahmedabad	BCD0123456	Mukesh Patel	MT789T1	90.00
7	Hyderabad	LMN9012345	Priyanka Reddy	MT789T2	95.00
8	New Delhi	STU6789012	Pooja Yadav	CH789T1	95.00
9	Indore	VWX7890123	Anita Jain	CH789T1	85.00
10	Gurgaon	EFG1234567	Rohit Kumar	CH789T1	85.00
11	Mumbai	RST5678901	Sumit Sharma	CH789T2	95.00
12	Pune	ABC1234567	Rahul Gupta	CH789T2	90.00
13	Patna	DEF0123456	Poonam Singh	MT890T1	95.00
14	Patna	DEF0123456	Poonam Singh	MT890T2	95.00
15	Ahmedabad	IJK5678901	Vivek Patel	PH456T1	90.00
16	Amritsar	XYZ8901234	Rahul Sharma	PH456T1	90.00
17	Ahmedabad	IJK5678901	Vivek Patel	PH456T2	90.00
18	Amritsar	XYZ8901234	Rahul Sharma	PH456T2	90.00
19	Bangalore	CDE1234567	Ananya Sharma	MT567T1	95.00
20	Kochi	ABC4567890	Anil Kumar	MT567T1	90.00
21	Jaipur	EFG3456789	Swati Gupta	MT567T1	85.00
22	Bangalore	CDE1234567	Ananya Sharma	MT567T2	95.00
23	Kochi	ABC4567890	Anil Kumar	MT567T2	90.00
24	Jaipur	EFG3456789	Swati Gupta	MT567T2	85.00
25	Ahmedabad	BCD0123456	Mukesh Patel	BI345T1	90.00
26	Ahmedabad	BCD0123456	Mukesh Patel	BI345T2	90.00
27	Patna	DEF0123456	Poonam Singh	PH678T1	95.00
28	Patna	DEF0123456	Poonam Singh	PH678T2	95.00

16) Give the list of courses which have classes scheduled in the first week of May

	course_id [PK] character 	course_title character varying (20) 
1	PH123	Physics
2	PH123	Physics
3	CH456	Chemistry JEE/NEET
4	MT789	Mathematics JEE
5	PH456	Physics JEE Main
6	PH678	Physics JEE/NEET Fnd
7	PH678	Physics JEE/NEET Fnd

17) Find the top 3 instructors with the highest average rating among instructors who have taught courses in at least two different subject areas.

	i_name character varying (30) 	avg_rating numeric 
1	Vivek Patel	7.8888888888888889
2	Akash Singh	7.5000000000000000
3	Divya Agrawal	7.5000000000000000