**SQL Academic General-Purpose Queries**

***1. List all the students in computer science department?***

This Query displays all the students under the computer science department in the university database. The query is written as below:

select student\_id , student\_name, department\_name

from student\_table

where department\_name = 'Computer Science'

*Output:*

A picture containing text, screenshot, computer

Description automatically generated

***2. List the student names and their IDs who secured an A grade in the university***

This Query displays the list of students i.e., their IDs and names who secured A grade. The query is written as below:

select distinct A.student\_id, B.student\_name,grade

from section\_table A, Student\_table B

where grade = 'A'

and A.student\_id = B.student\_id

*Output:*

It displays only those students who secured A grade

A picture containing text, screenshot, computer

Description automatically generated

***3. List the instructor whose salary is between 100,000 and 150,000***

This query displays the details of those instructors in the university whose salary is between 100,00 and 150,000. The query is written as below:

select instructor\_id, instructor\_name, salary

from instructor\_table

where salary between 100000 and 150000

*Output:*

A picture containing text, screenshot, computer

Description automatically generated

***4. List the section and their respective location of the classes which are conducted on Saturday.***

This query displayed the locations of the sections i.e., room number and building of the classes that are being conducted on Saturday. The query is written as below:

select A.section\_id, A.building,A.room\_number,B.day

from section\_table A, time\_slot\_table B

where A.time\_slot\_id = B.time\_slot\_id

and

day = 'Saturday'

Output:

Graphical user interface, text

Description automatically generated

***5. Create a view names as advisor where you print the instructors from Information and Decision Science department. From the view, get the instructors who are also advisors to students.***

This query deals with creation of view named Advisor, which lists the instructors from the Information and Decision Science Department. Using the view generated we make a query to display the list of instructors who are also advisors to students.

The query is written as below:

create view advisor as

select instructor\_ID, instructor\_name

from instructor\_table

where department\_name = 'Information and Decision Science';

select instructor\_name from advisor A, student\_table B

where A.instructor\_id = B.instructor\_id;

Output:

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text

Description automatically generated

***6. Find all students who take at least one course in 2021***

This Query displays student ID and student name of all the students who take at least one course in year 2021 in the university database. The query is written as below:

select student\_id, student\_name

from student\_table

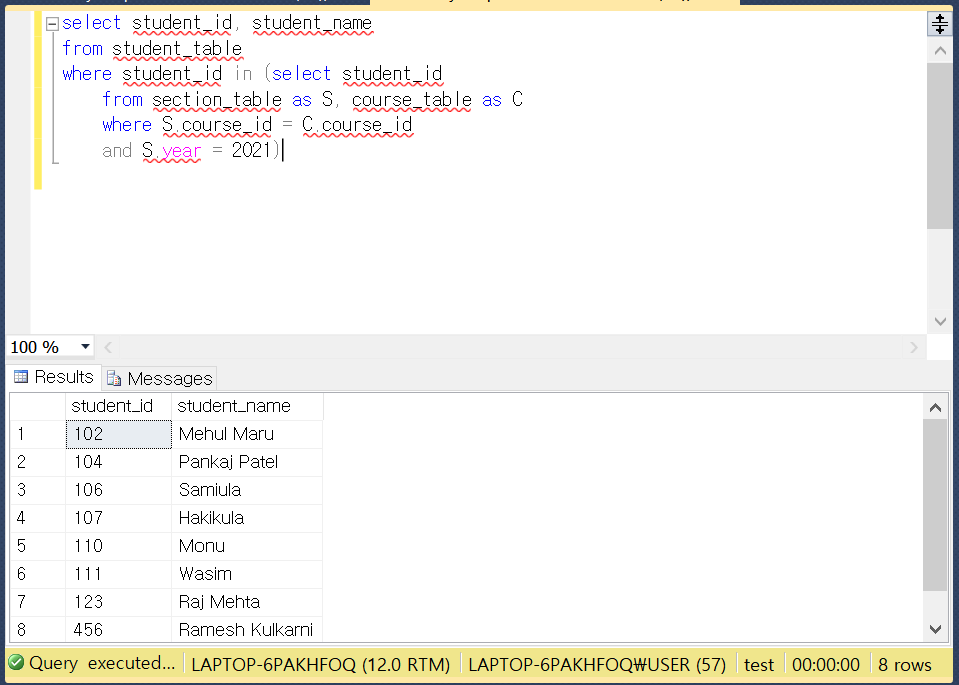
where student\_id in (select student\_id

from section\_table as S, course\_table as C

where S.course\_id = C.course\_id

and S.year = 2021

Output:



***7. Find all students whose advisor belong to IDS department***

This Query displays student ID and student name of all the students whose advisor belong to Information and Decision Science department in the university database. The query is written as below:

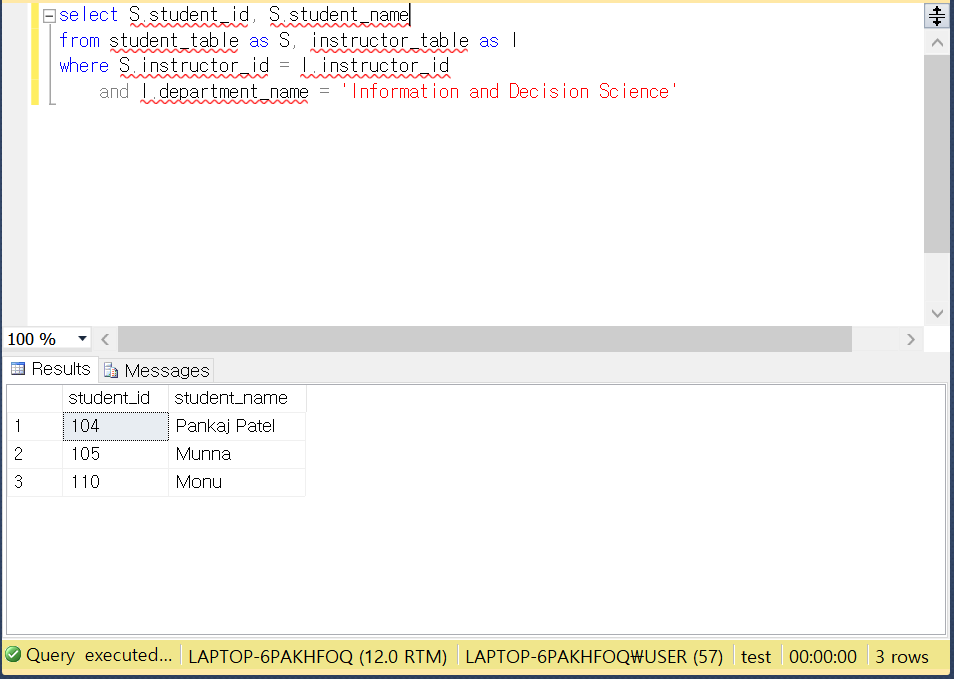
select S.student\_id, S.student\_name

from student\_table as S, instructor\_table as I

where S.instructor\_id = I.instructor\_id

and I.department\_name = 'Information and Decision Science'

Output:



***8. Find all courses in year 2020***

This Query displays the course ID and title of all the courses which were opened in year 2020 in the university database. The query is written as below:

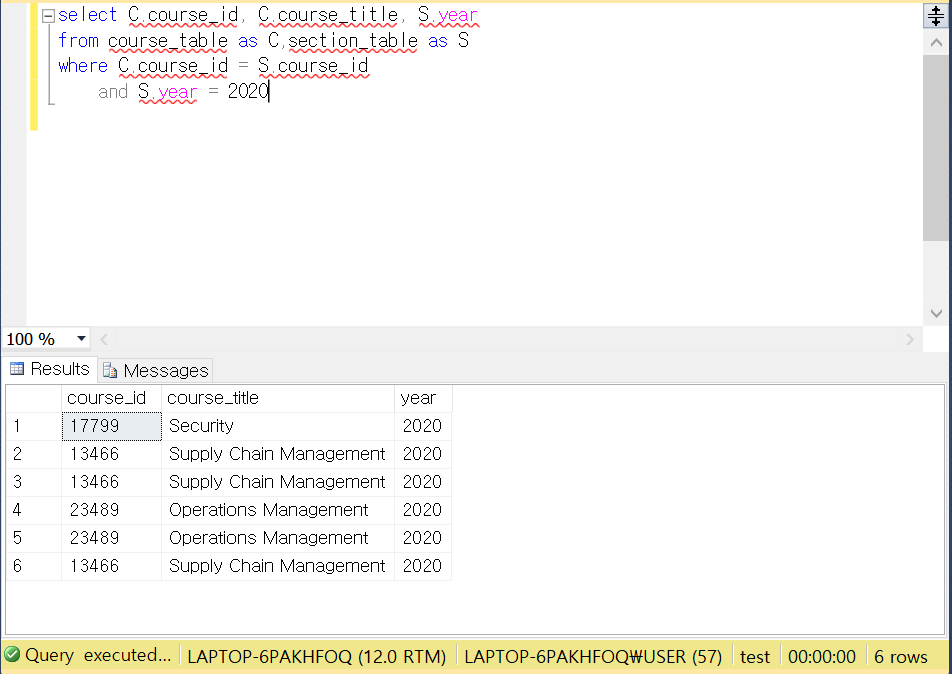
select C.course\_id, C.course\_title, S.year

from course\_table as C,section\_table as S

where C.course\_id = S.course\_id

and S.year = 2020

Output:



***9. Find title of courses of which credits are equal or less than 2***

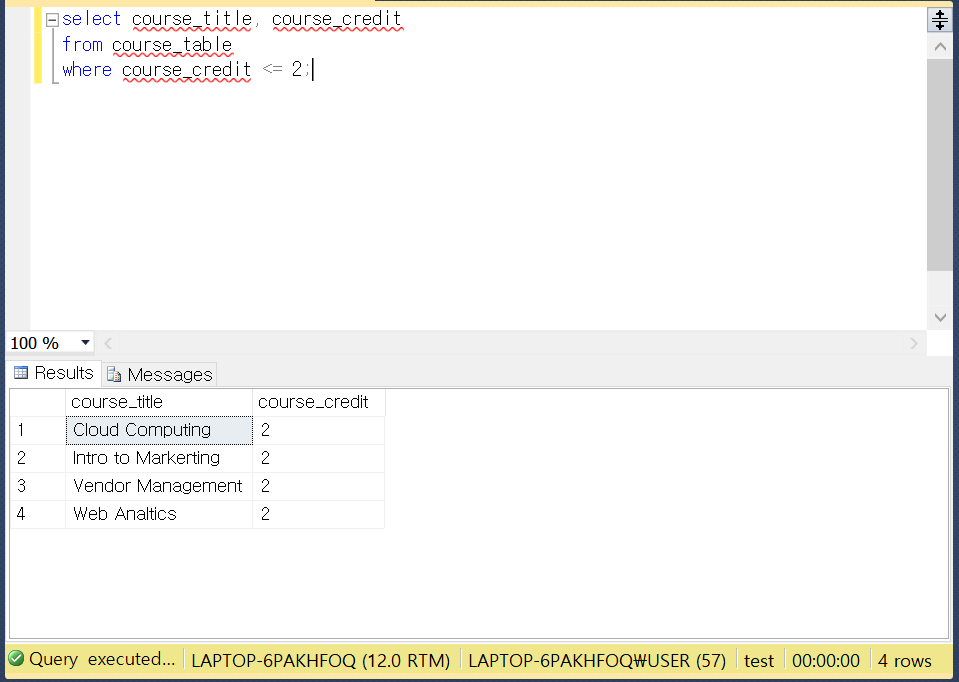
This Query displays the course title and the credits of all courses of which credits are equal or less than 2 in the university database. The query is written as below:

select course\_title, course\_credit

from course\_table

where course\_credit <= 2;

Output:



***10. Find all departments whose budget is more than 200000***

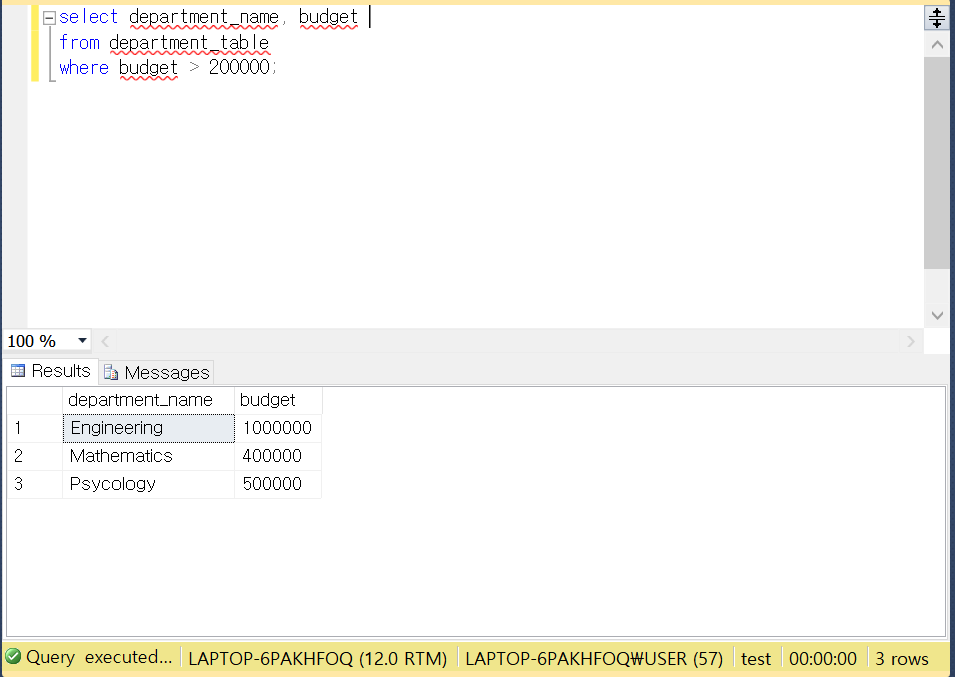
This Query displays the department names and each budget of all departments whose budget is more than 200000 in the university database. The query is written as below:

select department\_name, budget

from department\_table

where budget > 200000;

Output:



***11. Find out the department having maximum budgets.***

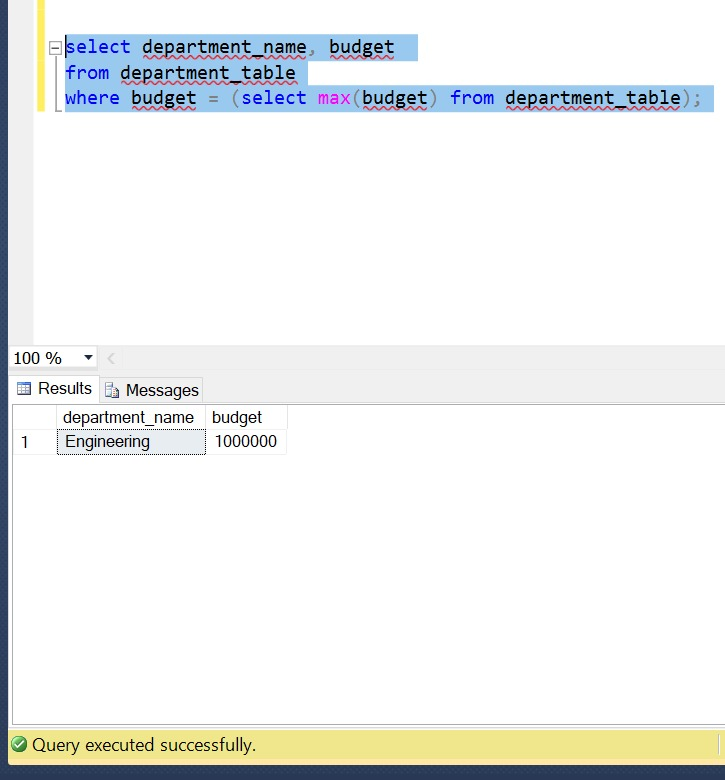
This query displays the Name and Budget of the department having maximum budget out of all the departments. The query is written as below:

select department\_name, budget

from department\_table

where budget = (select max(budget) from department\_table);

Output:

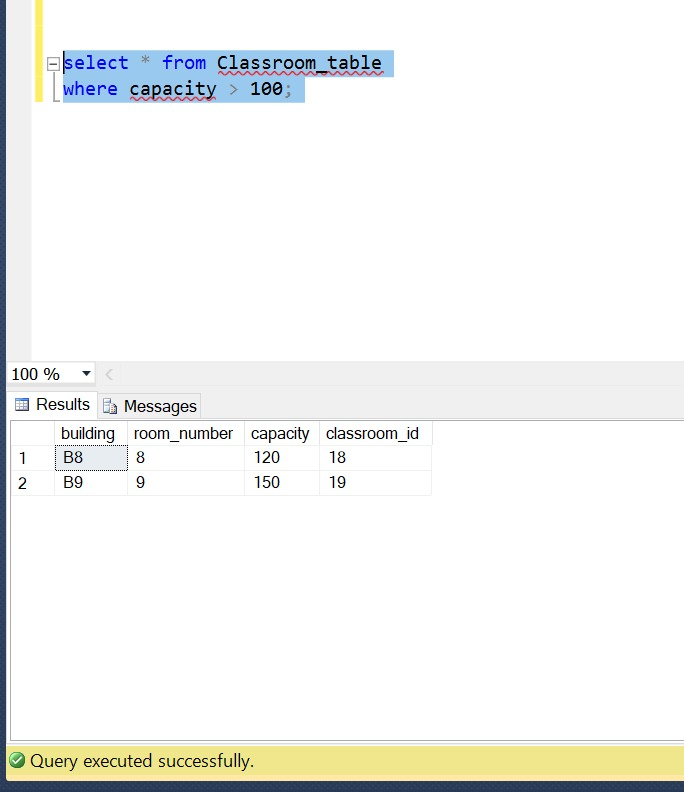


***12. List the classrooms whose capacity is greater than 100***

This query displays the details of classrooms having capacity more than 100. The query is written as below:

select \* from Classroom\_table

where capacity > 100:



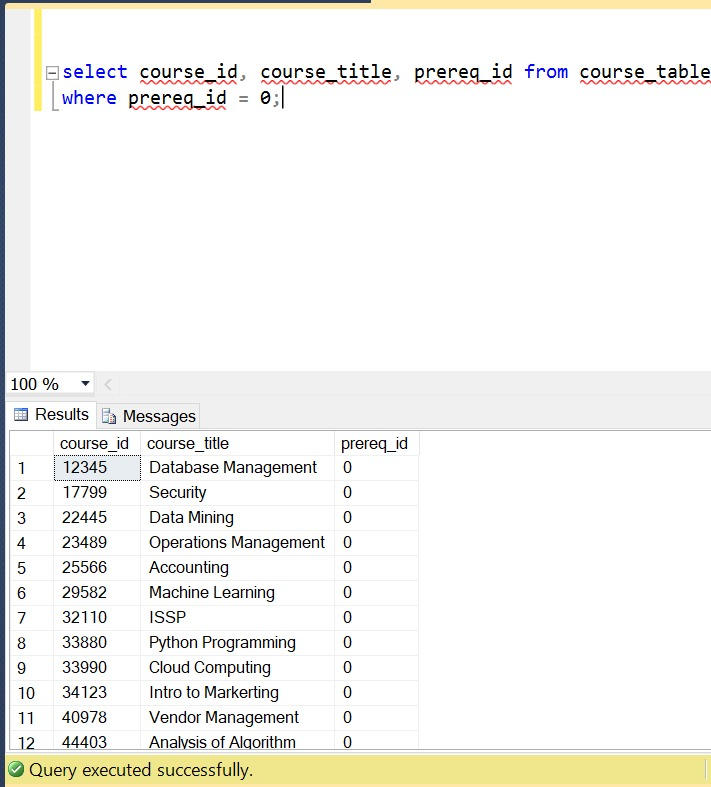
***13. Find out all the courses in which pre req is not required.***

This query displays all the course titles and ids in which no pre req is required. The query is written as below:

select course\_id, course\_title, prereq\_id from course\_table

where prereq\_is = 0;

Output:



***14. Update the credits of a student***

This query updates the total credits of a particular student as per the attributes given by us in the update statement.

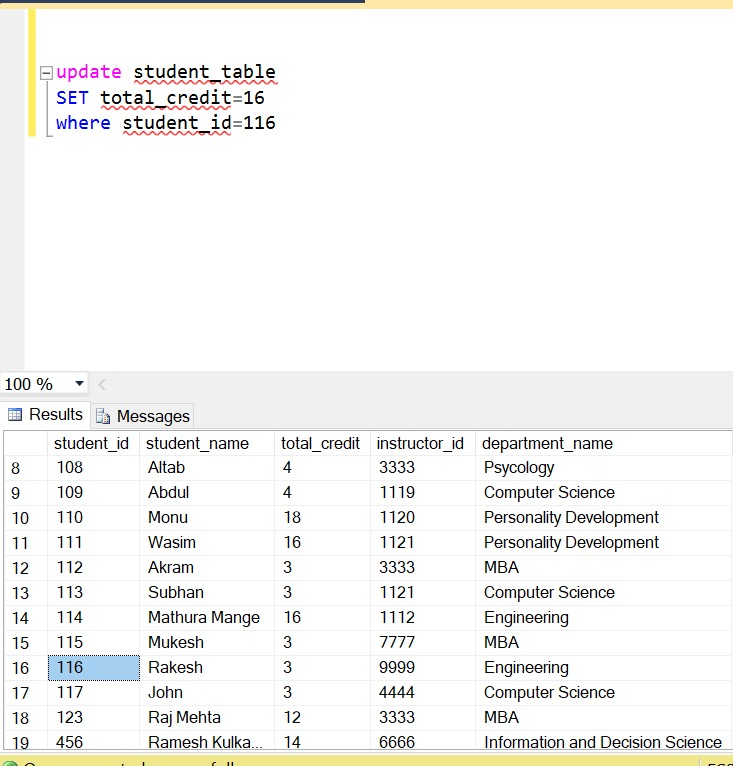
The query is written as below:

update student\_table

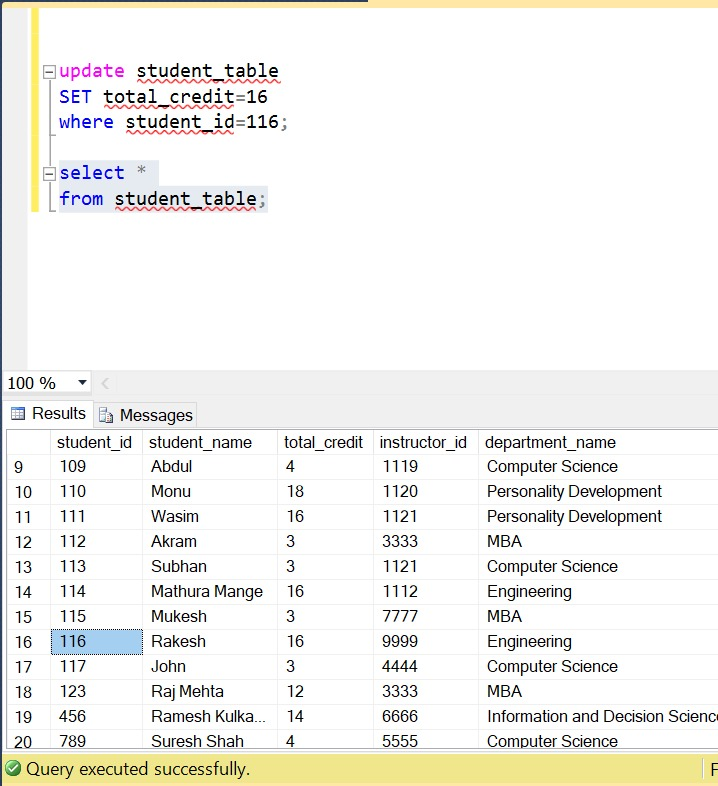
SET total\_credit=16

where student\_id=116

Before Update :



After Update :



***15. Find out all the instructors whose salary is less than the average salary of the university.***

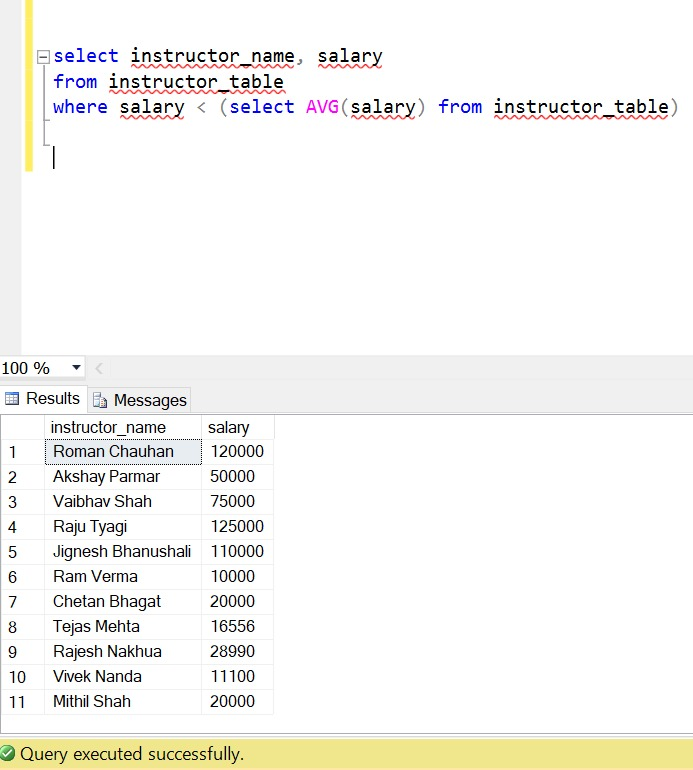
This query displays the name and salary of all the instructors having salary less than the average salary. The query is written as below:

select instructor\_name, salary

from instructor\_table

where salary < (select AVG(salary) from instructor\_table)

Output:



***16. Instructors who make more than 200,000 dollars a year***

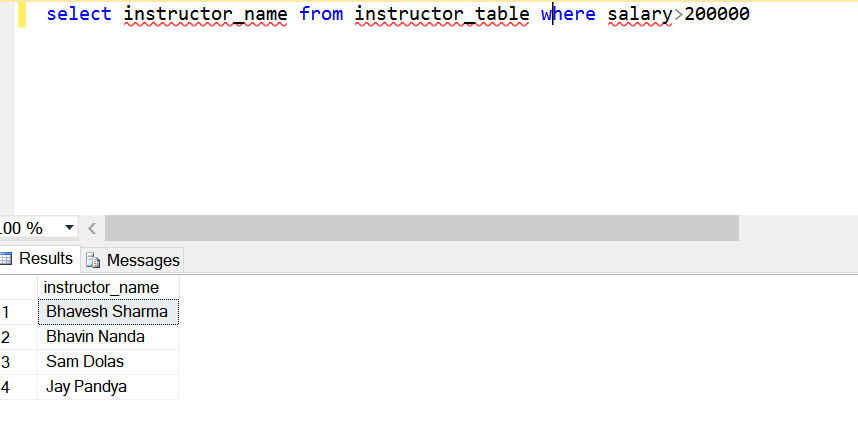
This Query displays the name of all the instructors who make over 200000$ a year. The query is written as below:

select instructor\_name

from instructor\_table

where salary>200000

Output:



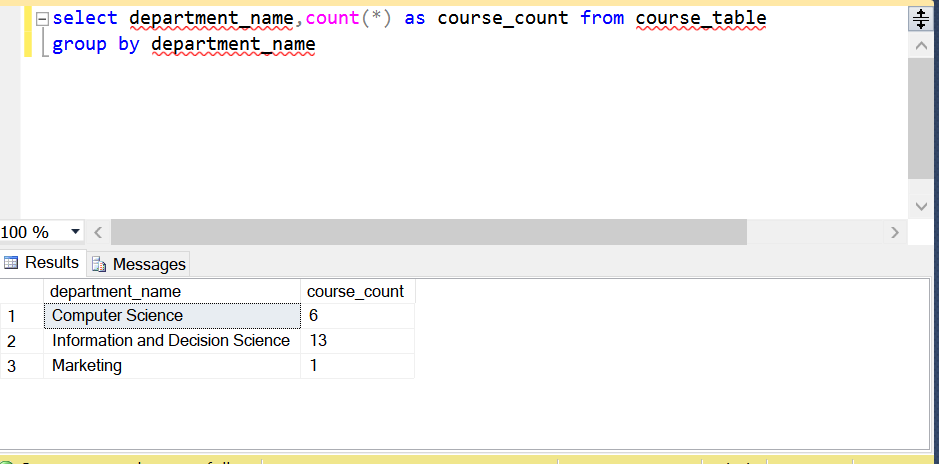
***17. Count of courses offered by the department***

This Query displays the total number of courses offered by each department. The Query is written as below:

select department\_name,count(\*), S.student\_name

from course\_table group department name

Output:

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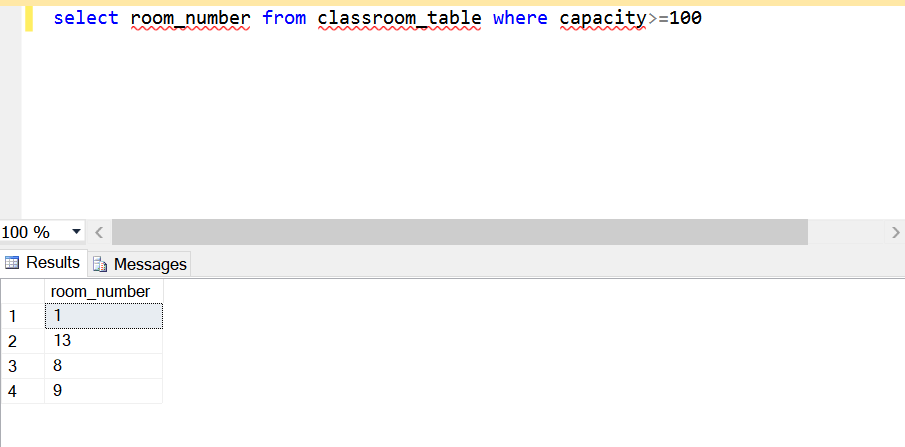
***18. Capacity of rooms larger than 100***

This Query displays the room number of rooms larger than 100. The query is written as below:

Select room\_number

from classroom\_table where capacity>100

Output:



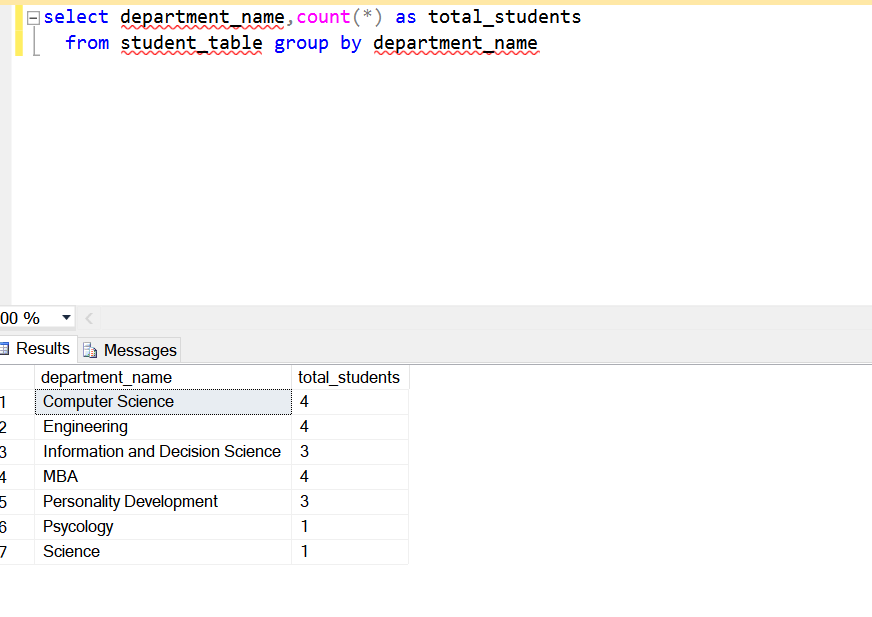
***19. Find total number of students from each dept***

This Query displays the total number of students of each department. The query is written as below:

select deoartment\_name, count(\*)

from student\_table group by department\_name

Output:

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***20. Finding courses which require a prereq***

This Query displays the name of the courses which require a prereq. The query is written as below:

select course\_title

from course\_table

where prereq!=0

Output:

