1. Find the department names of all instructors,”

Ans:

SELECT dept\_name FROM `instructor`;

|  |  |
| --- | --- |
| dept\_name | Comp. Sci. |
| Accounting | Comp. Sci. |
| Accounting | Cybernetics |
| Accounting | Cybernetics |
| Accounting | Cybernetics |
| Astronomy | Cybernetics |
| Athletics | Elec. Eng. |
| Athletics | Elec. Eng. |
| Athletics | Elec. Eng. |
| Athletics | Elec. Eng. |
| Athletics | English |
| Biology | English |
| Biology | English |

1. select *ID*, *name*, *dept name*, *salary* \* 1.1 from *instructor*;

ans:

127.0.0.1/versity/instructor/ http://localhost:8082/phpmyadmin/index.php?route=/table/sql&db=versity&table=instructor

Showing rows 0 - 24 (50 total, Query took 0.0004 seconds.)

select ID, name, dept\_name, salary \* 1.1 from instructor;

|  |  |  |  |
| --- | --- | --- | --- |
| ID | name | dept\_name | salary \* 1.1 |
|  |  |  |  |
| 14365 | Lembr | Accounting | 35465.716 |
|  |  |  |  |
| 15347 | Bawa | Athletics | 79354.968 |
|  |  |  |  |
| 16807 | Yazdi | Athletics | 108167.015 |
|  |  |  |  |
| 19368 | Wieland | Pol. Sci. | 137116.551 |
|  |  |  |  |
| 22591 | DAgostino | Psychology | 65677.139 |
|  |  |  |  |
| 25946 | Liley | Languages | 99980.859 |
|  |  |  |  |
| 28097 | Kean | English | 38525.498 |
|  |  |  |  |
| 28400 | Atanassov | Statistics | 93481.212 |
|  |  |  |  |
| 31955 | Moreira | Accounting | 78486.562 |
|  |  |  |  |
| 3199 | Gustafsson | Elec. Eng. | 90787.807 |
|  |  |  |  |
| 3335 | Bourrier | Comp. Sci. | 88877.613 |
|  |  |  |  |
| 34175 | Bondi | Comp. Sci. | 127016.021 |
|  |  |  |  |
| 35579 | Soisalon-Soininen | Psychology | 68837.571 |
|  |  |  |  |
| 36897 | Morris | Marketing | 48147.396 |
|  |  |  |  |
| 37687 | Arias | Statistics | 115019.718 |
|  |  |  |  |
| 4034 | Murata | Athletics | 67526.316 |
|  |  |  |  |
| 41930 | Tung | Athletics | 55530.233 |
|  |  |  |  |
| 4233 | Luo | English | 97670.595 |
|  |  |  |  |
| 42782 | Vicentino | Elec. Eng. | 37699.937 |
|  |  |  |  |
| 43779 | Romero | Astronomy | 86977.088 |
|  |  |  |  |
| 48507 | Lent | Mech. Eng. | 118776.317 |
|  |  |  |  |
| 48570 | Sarkar | Pol. Sci. | 96304.780 |
|  |  |  |  |
| 50330 | Shuming | Physics | 118812.991 |
|  |  |  |  |
| 50885 | Konstantinides | Languages | 35827.550 |
|  |  |  |  |
| 52647 | Bancilhon | Pol. Sci. | 96753.811 |
|  |  |  |  |

1. “Find the names of all instructors in the Computer Science department who have salary greater than $70,000.”

Ans:

Select name from instructor where dept\_name=’Comp sci.’ and salary>70000

SELECT name from instructor

where dept\_name ='Comp. Sci.' and salary>70000;

|  |  |
| --- | --- |
| name |  |
| Bourrier |  |
| Bondi |  |

3. [select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) instructor.name,instructor.dept\_name, department.building from instructor, department where instructor.dept\_name= department.dept\_name;

Ans:

select instructor.name,instructor.dept\_name, department.building

from instructor, department

where instructor.dept\_name= department.dept\_name;

|  |  |  |
| --- | --- | --- |
| name | dept\_name | building |
|  |  |  |
| Lembr | Accounting | Saucon |
|  |  |  |
| Moreira | Accounting | Saucon |
|  |  |  |
| Hau | Accounting | Saucon |
|  |  |  |
| Ullman | Accounting | Saucon |
|  |  |  |
| Romero | Astronomy | Taylor |
|  |  |  |
| Bawa | Athletics | Bronfman |
|  |  |  |
| Yazdi | Athletics | Bronfman |
|  |  |  |
| Murata | Athletics | Bronfman |
|  |  |  |
| Tung | Athletics | Bronfman |
|  |  |  |
| Jaekel | Athletics | Bronfman |
|  |  |  |
| Queiroz | Biology | Candlestick |
|  |  |  |
| Valtchev | Biology | Candlestick |
|  |  |  |
| Bourrier | Comp. Sci. | Lamberton |
|  |  |  |
| Bondi | Comp. Sci. | Lamberton |
|  |  |  |
| McKinnon | Cybernetics | Mercer |
|  |  |  |
| Pimenta | Cybernetics | Mercer |
|  |  |  |
| Bietzk | Cybernetics | Mercer |
|  |  |  |
| Dale | Cybernetics | Mercer |
|  |  |  |
| Gustafsson | Elec. Eng. | Main |
|  |  |  |
| Vicentino | Elec. Eng. | Main |
|  |  |  |
| Sullivan | Elec. Eng. | Main |
|  |  |  |
| Levine | Elec. Eng. | Main |
|  |  |  |
| Kean | English | Palmer |
|  |  |  |
| Luo | English | Palmer |
|  |  |  |
| Yin | English | Palmer |
|  |  |  |

4. select *name*, *course id*

from *instructor*, *teaches*

where *instructor*.*ID*= *teaches*.*ID*;

select instructor.name, teaches.course\_id

from instructor, teaches

where instructor.ID= teaches.ID;

|  |  |
| --- | --- |
| name | course\_id |
|  |  |
| Lembr | 200 |
|  |  |
| Lembr | 843 |
|  |  |
| Bawa | 457 |
|  |  |
| Wieland | 545 |
|  |  |
| Wieland | 581 |
|  |  |
| Wieland | 591 |
|  |  |
| DAgostino | 338 |
|  |  |
| DAgostino | 338 |
|  |  |
| DAgostino | 352 |
|  |  |
| DAgostino | 400 |
|  |  |
| DAgostino | 400 |
|  |  |
| DAgostino | 482 |
|  |  |
| DAgostino | 599 |
|  |  |
| DAgostino | 642 |
|  |  |
| DAgostino | 663 |
|  |  |
| DAgostino | 867 |
|  |  |
| DAgostino | 962 |
|  |  |
| DAgostino | 972 |
|  |  |
| DAgostino | 991 |
|  |  |
| Liley | 192 |
|  |  |
| Kean | 366 |
|  |  |
| Kean | 808 |
|  |  |
| Atanassov | 603 |
|  |  |
| Atanassov | 604 |
|  |  |
| Gustafsson | 169 |
|  |  |

5. [select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) instructor.name, teaches.course\_id from instructor, teaches where instructor.ID= teaches.ID [and](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_and) instructor.dept\_name = 'Comp. Sci.';

Ans:

|  |  |
| --- | --- |
| name | course\_id |
| Bourrier | 949 |
| Bourrier | 960 |
| Bondi | 274 |
| Bondi | 571 |
| Bondi | 747 |

6.

[select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) instructor.name, teaches.course\_id from instructor, teaches where instructor.ID= teaches.ID;

|  |  |
| --- | --- |
| name | course\_id |
| Lembr | 200 |
| Lembr | 843 |
| Bawa | 457 |
| Wieland | 545 |
| Wieland | 581 |
| Wieland | 591 |
| DAgostino | 338 |
| DAgostino | 338 |
| DAgostino | 352 |
| DAgostino | 400 |
| DAgostino | 400 |
| DAgostino | 482 |
| DAgostino | 599 |
| DAgostino | 642 |
| DAgostino | 663 |
| DAgostino | 867 |
| DAgostino | 962 |
| DAgostino | 972 |
| DAgostino | 991 |
| Liley | 192 |
| Kean | 366 |
| Kean | 808 |
| Atanassov | 603 |
| Atanassov | 604 |
| Gustafsson | 169 |

7. [select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) name as instructor\_name, course\_id as cor from instructor, teaches where instructor.ID= teaches.ID;

|  |  |
| --- | --- |
| instructor\_name | cor |
|  |  |
| Lembr | 200 |
|  |  |
| Lembr | 843 |
|  |  |
| Bawa | 457 |
|  |  |
| Wieland | 545 |
|  |  |
| Wieland | 581 |
|  |  |
| Wieland | 591 |
|  |  |
| DAgostino | 338 |
|  |  |
| DAgostino | 338 |
|  |  |
| DAgostino | 352 |
|  |  |
| DAgostino | 400 |
|  |  |
| DAgostino | 400 |
|  |  |
| DAgostino | 482 |
|  |  |
| DAgostino | 599 |
|  |  |
| DAgostino | 642 |
|  |  |
| DAgostino | 663 |
|  |  |
| DAgostino | 867 |
|  |  |
| DAgostino | 962 |
|  |  |
| DAgostino | 972 |
|  |  |
| DAgostino | 991 |
|  |  |
| Liley | 192 |
|  |  |
| Kean | 366 |
|  |  |
| Kean | 808 |
|  |  |
| Atanassov | 603 |
|  |  |
| Atanassov | 604 |
|  |  |
| Gustafsson | 169 |
|  |  |

8. 127.0.0.1/versity/teaches/ http://localhost:8082/phpmyadmin/index.php?route=/table/sql&db=versity&table=teaches

Showing rows 0 - 24 (100 total, Query took 0.0004 seconds.)

select T.name, S.course\_id

from instructor as T, teaches as S

where T.ID= S.ID;

|  |  |
| --- | --- |
| name | course\_id |
|  |  |
| Lembr | 200 |
|  |  |
| Lembr | 843 |
|  |  |
| Bawa | 457 |
|  |  |
| Wieland | 545 |
|  |  |
| Wieland | 581 |
|  |  |
| Wieland | 591 |
|  |  |
| DAgostino | 338 |
|  |  |
| DAgostino | 338 |
|  |  |
| DAgostino | 352 |
|  |  |
| DAgostino | 400 |
|  |  |
| DAgostino | 400 |
|  |  |
| DAgostino | 482 |
|  |  |
| DAgostino | 599 |
|  |  |
| DAgostino | 642 |
|  |  |
| DAgostino | 663 |
|  |  |
| DAgostino | 867 |
|  |  |
| DAgostino | 962 |
|  |  |
| DAgostino | 972 |
|  |  |
| DAgostino | 991 |
|  |  |
| Liley | 192 |
|  |  |
| Kean | 366 |
|  |  |
| Kean | 808 |
|  |  |
| Atanassov | 603 |
|  |  |
| Atanassov | 604 |
|  |  |
| Gustafsson | 169 |
|  |  |

9. [select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) distinct T.name from instructor as T, instructor as S where T.salary > S.salary [and](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_and) S.dept\_name = 'Biology';

|  |  |
| --- | --- |
| name | Murata |
| Bawa | Tung |
| Yazdi | Luo |
| Wieland | Romero |
| DAgostino | Lent |
| Liley | Sarkar |
| Atanassov | Shuming |
| Moreira | Bancilhon |
| Gustafsson | Dusserre |
| Bourrier | Desyl |
| Bondi | Jaekel |
| Soisalon-Soininen | McKinnon |
| Arias | Mingoz |

10. select dept\_name from department where building like '%Whit%';

|  |
| --- |
| Pol. Sci. |

11. [select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) name from instructor where dept\_name = 'Physics' order by name;

|  |
| --- |
| name |
| Shuming |
| Voronina |

12. select \*

from instructor

order by salary desc, name asc;

|  |  |  |  |
| --- | --- | --- | --- |
| ID | name | dept\_name | salary |
|  |  |  |  |
| 19368 | Wieland | Pol. Sci. | 124651.41 |
|  |  |  |  |
| 74420 | Voronina | Physics | 121141.99 |
|  |  |  |  |
| 96895 | Mird | Marketing | 119921.41 |
|  |  |  |  |
| 95709 | Sakurai | English | 118143.98 |
|  |  |  |  |
| 90376 | Bietzk | Cybernetics | 117836.50 |
|  |  |  |  |
| 34175 | Bondi | Comp. Sci. | 115469.11 |
|  |  |  |  |
| 50330 | Shuming | Physics | 108011.81 |
|  |  |  |  |
| 48507 | Lent | Mech. Eng. | 107978.47 |
|  |  |  |  |
| 74426 | Kenje | Marketing | 106554.73 |
|  |  |  |  |
| 6569 | Mingoz | Finance | 105311.38 |
|  |  |  |  |
| 37687 | Arias | Statistics | 104563.38 |
|  |  |  |  |
| 63287 | Jaekel | Athletics | 103146.87 |
|  |  |  |  |
| 77346 | Mahmoud | Geology | 99382.59 |
|  |  |  |  |
| 16807 | Yazdi | Athletics | 98333.65 |
|  |  |  |  |
| 63395 | McKinnon | Cybernetics | 94333.99 |
|  |  |  |  |
| 99052 | Dale | Cybernetics | 93348.83 |
|  |  |  |  |
| 25946 | Liley | Languages | 90891.69 |
|  |  |  |  |
| 73623 | Sullivan | Elec. Eng. | 90038.09 |
|  |  |  |  |
| 79653 | Levine | Elec. Eng. | 89805.83 |
|  |  |  |  |
| 4233 | Luo | English | 88791.45 |
|  |  |  |  |
| 52647 | Bancilhon | Pol. Sci. | 87958.01 |
|  |  |  |  |
| 48570 | Sarkar | Pol. Sci. | 87549.80 |
|  |  |  |  |
| 28400 | Atanassov | Statistics | 84982.92 |
|  |  |  |  |
| 3199 | Gustafsson | Elec. Eng. | 82534.37 |
|  |  |  |  |
| 3335 | Bourrier | Comp. Sci. | 80797.83 |
|  |  |  |  |

13. [select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) name from instructor where salary between 90000 [and](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_and) 100000;

|  |
| --- |
| name |
| Yazdi |
| Liley |
| McKinnon |
| Sullivan |
| Mahmoud |
| Dale |

14. [select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) name from instructor where salary <= 100000 [and](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_and) salary >= 90000;

|  |
| --- |
| name |
|  |
| Yazdi |
|  |
| Liley |
|  |
| McKinnon |
|  |
| Sullivan |
|  |
| Mahmoud |
|  |
| Dale |
|  |

15. select instructor.name, teaches.course\_id

from instructor, teaches

where instructor.ID= teaches.ID and dept name = 'Biology';

|  |  |
| --- | --- |
| name | course\_id |
|  |  |
| Queiroz | 559 |
|  |  |
| Valtchev | 415 |
|  |  |
| Valtchev | 702 |
|  |  |

16. select instructor.name, teaches.course\_id

from instructor, teaches

where (instructor.ID, dept\_name) = (teaches.ID, 'Biology');

|  |  |
| --- | --- |
| name | course\_id |
|  |  |
| Queiroz | 559 |
|  |  |
| Valtchev | 415 |
|  |  |
| Valtchev | 702 |
|  |  |

17. (select course\_id

from section

where semester = 'Fall' and year= 2017)

union

(select course\_id

from section

where semester = 'Spring' and year= 2018);

|  |
| --- |
| course\_id |
|  |
| CS-101 |
|  |
| CS-347 |
|  |
| PHY-101 |
|  |
| FIN-201 |
|  |
| MU-199 |
|  |
| HIS-351 |
|  |
| CS-319 |
|  |
| CS-315 |
|  |

18. (select course\_id

from section

where semester = 'Fall' and year= 2017)

intersect

(select course\_id

from section

where semester = 'Spring' and year= 2018);

|  |
| --- |
| CS-101 |
|  |
| 19. |

(select course\_idid

from section

where semester = 'Fall' and year= 2017)

intersect all

(select course\_id

from section

where semester = 'Spring' and year= 2018);

20. (select course\_id

from section

where semester = 'Fall' and year= 2017)

except

(select course\_id

from section

where semester = 'Spring' and year= 2018);

|  |
| --- |
| course\_id |
| CS-347 |
| PHY-101 |

21. (select course\_id

from section

where semester = 'Fall' and year= 2017)

except all

(select course\_id

from section

where semester = 'Spring' and year= 2018);

22. select *name*

from *instructor*

where *salary* is null;

23. select *name*

from *instructor*

where *salary >* 10000 is unknown;

24. select avg (salary)

from instructor

where dept\_name = 'Comp. Sci.';

|  |
| --- |
| 85653.388000 |

25. SELECT avg(salary) as avg\_salary from instructor

where dept\_name='Comp. Sci.';

|  |
| --- |
| 85653.388000 |

26. select count(distinct *ID*)

from *teaches*

where *semester* = 'Spring' and *year* = 2018;

|  |
| --- |
| 0 |

27. SELECT dept\_name, avg\_salary

FROM (

SELECT dept\_name, AVG(salary) AS avg\_salary

FROM instructor

GROUP BY dept\_name

) AS subquery

where avg\_salary > 42000;

|  |  |
| --- | --- |
| dept\_name | avg\_salary |
|  |  |
| Accounting | 48716.592500 |
|  |  |
| Astronomy | 79070.080000 |
|  |  |
| Athletics | 77098.198000 |
|  |  |
| Biology | 64858.166667 |
|  |  |
| Comp. Sci. | 85653.388000 |
|  |  |
| Cybernetics | 96346.567500 |
|  |  |
| Elec. Eng. | 75330.192000 |
|  |  |
| English | 72089.050000 |
|  |  |
| Finance | 91770.460000 |
|  |  |
| Geology | 99382.590000 |
|  |  |
| History | 61000.000000 |
|  |  |
| Languages | 57421.856667 |
|  |  |
| Marketing | 84097.437500 |
|  |  |
| Mech. Eng. | 79813.020000 |
|  |  |
| Physics | 102788.450000 |
|  |  |
| Pol. Sci. | 100053.073333 |
|  |  |
| Psychology | 61143.050000 |
|  |  |
| Statistics | 67795.441667 |

28. select count (\*)

from *course*;

|  |
| --- |
| 213 |

29. [select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) dept\_name, [avg](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_avg) (salary) as avg\_salary from instructor group by dept\_name;

|  |  |
| --- | --- |
| dept\_name | avg\_salary |
|  |  |
| Accounting | 48716.592500 |
|  |  |
| Astronomy | 79070.080000 |
|  |  |
| Athletics | 77098.198000 |
|  |  |
| Biology | 64858.166667 |
|  |  |
| Comp. Sci. | 85653.388000 |
|  |  |
| Cybernetics | 96346.567500 |
|  |  |
| Elec. Eng. | 75330.192000 |
|  |  |
| English | 72089.050000 |
|  |  |
| Finance | 91770.460000 |
|  |  |
| Geology | 99382.590000 |
|  |  |
| History | 61000.000000 |
|  |  |
| Languages | 57421.856667 |
|  |  |
| Marketing | 84097.437500 |
|  |  |
| Mech. Eng. | 79813.020000 |
|  |  |
| Music | 40000.000000 |
|  |  |
| Physics | 102788.450000 |
|  |  |
| Pol. Sci. | 100053.073333 |
|  |  |
| Psychology | 61143.050000 |
|  |  |
| Statistics | 67795.441667 |
|  |  |

30. select instructor.dept\_name, count(distinct teaches.ID) as instr\_count from instructor, teaches

where instructor.ID= teaches.ID and

semester = 'Spring' and year = 2018

group by dept\_name;

|  |  |
| --- | --- |
| dept\_name | instr\_count |
|  |  |
| Comp. Sci. | 3 |
|  |  |
| Finance | 1 |
|  |  |
| History | 1 |
|  |  |
| Music | 1 |
|  |  |

31. select dept\_name, avg (salary) as avg\_salary

from instructor

group by dept\_name

having avg(salary) > 42000;

|  |  |
| --- | --- |
| dept\_name | avg\_salary |
|  |  |
| Biology | 72000.000000 |
|  |  |
| Comp. Sci. | 77333.333333 |
|  |  |
| Elec. Eng. | 80000.000000 |
|  |  |
| Finance | 85000.000000 |
|  |  |
| History | 61000.000000 |
|  |  |
| Physics | 91000.000000 |
|  |  |

32. select course\_id, semester, year, sec\_id, avg (tot\_cred)

from student, takes

where student.ID= takes.ID and year = 2017

group by course\_id, semester, year, sec\_id

having count(student.ID) >= 2;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| course\_id | semester | year | sec\_id | avg (tot\_cred) |
| CS-101 | Fall | 2017 | 1 | 65.0000 |
| CS-190 | Spring | 2017 | 2 | 43.0000 |
| CS-347 | Fall | 2017 | 1 | 67.0000 |

33. select sum(*salary*)

from *instructor*;

|  |
| --- |
| 898000.00 |

34. (select *cours\_ id*

from *section*

where *semester* = 'Spring' and *year*= 2018)

|  |
| --- |
| course\_id |
|  |
| CS-101 |
|  |
| FIN-201 |
|  |
| MU-199 |
|  |
| HIS-351 |
|  |
| CS-319 |
|  |
| CS-319 |
|  |
| CS-315 |
|  |

35. select distinct course\_id

from section

where semester = 'Fall' and year= 2017 and

course\_id in (select course\_id

from section

where semester = 'Spring' and year= 2018);

|  |
| --- |
| CS-101 |

36. [select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) [count](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_count)(distinct ID) from takes where (course\_id, sec\_id, semester, year) [in](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/comparison-operators.html%23function_in) ([select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) course\_id, sec\_id, semester, year from teaches where teaches.ID= '10101');

|  |
| --- |
| 6 |

37. [select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) name from instructor where salary > some ([select](http://localhost:8082/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) salary from instructor where dept\_name = 'Biology');

|  |
| --- |
| name |
|  |
| Wu |
|  |
| Einstein |
|  |
| Gold |
|  |
| Katz |
|  |
| Singh |
|  |
| Brandt |
|  |
| Kim |
|  |
|  |

37. select name

from instructor

where salary > all (select salary

from instructor

where dept\_name = 'Biology');

|  |
| --- |
| name |
|  |
| Wu |
|  |
| Einstein |
|  |
| Gold |
|  |
| Katz |
|  |
| Singh |
|  |
| Brandt |
|  |
| Kim |
|  |