1. SELECT \* FROM student INNER JOIN instructor ON student.department\_name = instructor.department\_name;

**Database university**

**Table structure for table student**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column | Type | Null | Default | Links to | Comments | Media type |
| student\_id | int(11) | No |  |  |  | |
| student\_name | varchar(25) | Yes | NULL |  |  | |
| department\_name | varchar(25) | Yes | NULL |  |  | |
| total\_credits | int(11) | Yes | NULL |  |  | |
| birthdate | date | Yes | NULL |  |  | |

**Dumping data for table student**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| student\_id | student\_name | department\_name | total\_credits | birthdate | instructor\_id | instructor\_name | department\_name | salary |
| 2001 | sam | comp | 8 | NULL | 5001 | aaa | comp | 100000 |
| 2004 | Elis | comp | 4 | NULL | 5001 | aaa | comp | 100000 |
| 2001 | sam | comp | 8 | NULL | 5002 | bbb | comp | 50000 |
| 2004 | Elis | comp | 4 | NULL | 5002 | bbb | comp | 50000 |
| 2002 | mary | civil | 7 | NULL | 5003 | ccc | civil | 150000 |
| 2003 | judit | electronics | 4 | NULL | 5004 | ddd | electronics | 75000 |

1. SELECT \* FROM student NATURAL JOIN instructor;

**Database university**

**Table structure for table student**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column | Type | Null | Default | Links to | Comments | Media type |
| student\_id | int(11) | No |  |  |  | |
| student\_name | varchar(25) | Yes | NULL |  |  | |
| department\_name | varchar(25) | Yes | NULL |  |  | |
| total\_credits | int(11) | Yes | NULL |  |  | |
| birthdate | date | Yes | NULL |  |  | |

**Dumping data for table student**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| department\_name | student\_id | student\_name | total\_credits | birthdate | instructor\_id | instructor\_name | salary |
| comp | 2001 | sam | 8 | NULL | 5001 | aaa | 100000 |
| comp | 2004 | Elis | 4 | NULL | 5001 | aaa | 100000 |
| comp | 2001 | sam | 8 | NULL | 5002 | bbb | 50000 |
| comp | 2004 | Elis | 4 | NULL | 5002 | bbb | 50000 |
| civil | 2002 | mary | 7 | NULL | 5003 | ccc | 150000 |
| electronics | 2003 | judit | 4 | NULL | 5004 | ddd | 75000 |

1. SELECT \* FROM student LEFT JOIN instructor ON student.department\_name = instructor.department\_name;

**Database university**

**Table structure for table student**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column** | **Type** | **Null** | **Default** | **Links to** | **Comments** | **Media type** |
| **student\_id** | **int(11)** | **No** |  |  |  | |
| **student\_name** | **varchar(25)** | **Yes** | **NULL** |  |  | |
| **department\_name** | **varchar(25)** | **Yes** | **NULL** |  |  | |
| **total\_credits** | **int(11)** | **Yes** | **NULL** |  |  | |
| **birthdate** | **date** | **Yes** | **NULL** |  |  | |

**Dumping data for table student**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **student\_id** | **student\_name** | **department\_name** | **total\_credits** | **birthdate** | **instructor\_id** | **instructor\_name** | **department\_name** | **salary** |
| **2001** | **sam** | **comp** | **8** | **NULL** | **5001** | **aaa** | **comp** | **100000** |
| **2004** | **Elis** | **comp** | **4** | **NULL** | **5001** | **aaa** | **comp** | **100000** |
| **2001** | **sam** | **comp** | **8** | **NULL** | **5002** | **bbb** | **comp** | **50000** |
| **2004** | **Elis** | **comp** | **4** | **NULL** | **5002** | **bbb** | **comp** | **50000** |
| **2002** | **mary** | **civil** | **7** | **NULL** | **5003** | **ccc** | **civil** | **150000** |
| **2003** | **judit** | **electronics** | **4** | **NULL** | **5004** | **ddd** | **electronics** | **75000** |

1. SELECT \* FROM student RIGHT JOIN instructor ON student.department\_name = instructor.department\_name;

**Database university**

**Table structure for table student**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column | Type | Null | Default | Links to | Comments | Media type |
| student\_id | int(11) | No |  |  |  | |
| student\_name | varchar(25) | Yes | NULL |  |  | |
| department\_name | varchar(25) | Yes | NULL |  |  | |
| total\_credits | int(11) | Yes | NULL |  |  | |
| birthdate | date | Yes | NULL |  |  | |

**Dumping data for table student**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| student\_id | student\_name | department\_name | total\_credits | birthdate | instructor\_id | instructor\_name | department\_name | salary |
| 2001 | sam | comp | 8 | NULL | 5001 | aaa | comp | 100000 |
| 2001 | sam | comp | 8 | NULL | 5002 | bbb | comp | 50000 |
| 2002 | mary | civil | 7 | NULL | 5003 | ccc | civil | 150000 |
| 2003 | judit | electronics | 4 | NULL | 5004 | ddd | electronics | 75000 |
| 2004 | Elis | comp | 4 | NULL | 5001 | aaa | comp | 100000 |
| 2004 | Elis | comp | 4 | NULL | 5002 | bbb | comp | 50000 |

1. SELECT \* FROM student LEFT JOIN instructor ON student.department\_name = instructor.department\_name

UNION

SELECT \*

FROM student

RIGHT JOIN instructor ON student.department\_name = instructor.department\_name;

**Database university**

**Table structure for table student**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column** | **Type** | **Null** | **Default** | **Links to** | **Comments** | **Media type** |
| **student\_id** | **int(11)** | **No** |  |  |  | |
| **student\_name** | **varchar(25)** | **Yes** | **NULL** |  |  | |
| **department\_name** | **varchar(25)** | **Yes** | **NULL** |  |  | |
| **total\_credits** | **int(11)** | **Yes** | **NULL** |  |  | |
| **birthdate** | **date** | **Yes** | **NULL** |  |  | |

**Dumping data for table student**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **student\_id** | **student\_name** | **department\_name** | **total\_credits** | **birthdate** | **instructor\_id** | **instructor\_name** | **department\_name** | **salary** |
| **2001** | **sam** | **comp** | **8** | **NULL** | **5001** | **aaa** | **comp** | **100000** |
| **2004** | **Elis** | **comp** | **4** | **NULL** | **5001** | **aaa** | **comp** | **100000** |
| **2001** | **sam** | **comp** | **8** | **NULL** | **5002** | **bbb** | **comp** | **50000** |
| **2004** | **Elis** | **comp** | **4** | **NULL** | **5002** | **bbb** | **comp** | **50000** |
| **2002** | **mary** | **civil** | **7** | **NULL** | **5003** | **ccc** | **civil** | **150000** |
| **2003** | **judit** | **electronics** | **4** | **NULL** | **5004** | **ddd** | **electronics** | **75000** |

1. select student.student\_name from student join takes on student.student\_id = takes.student\_id WHERE takes.course\_id = 101;

# Database university

## Table structure for table student

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Null** | **Default** |
| ***student\_id*** | int | No |  |
| student\_name | varchar(25) | Yes | NULL |
| department\_name | varchar(25) | Yes | NULL |
| total\_credits | int | Yes | NULL |
| birthdate | date | Yes | NULL |

## Dumping data for table student

|  |
| --- |
| sam |
| Elis |

7. SELECT student.student\_name, instructor.instructor\_name FROM student JOIN takes

on student.student\_id = takes.student\_id JOIN teaches

on takes.course\_id = teaches.course\_id JOIN instructor

on teaches.instructor\_id = instructor.instructor\_id where teaches.course\_id =101;

# Database university

## Dumping data for table student

|  |  |
| --- | --- |
| Elis | aaa |
| sam | aaa |
| Elis | bbb |
| sam | bbb |

8. SELECT student.student\_name from student JOIN takes on student.student\_id = takes.student\_id

where takes.date\_registered = '2023-01-01';

# Database university

## Table structure for table student

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Null** | **Default** |
| ***student\_id*** | int | No |  |
| student\_name | varchar(25) | Yes | NULL |
| department\_name | varchar(25) | Yes | NULL |
| total\_credits | int | Yes | NULL |
| birthdate | date | Yes | NULL |

## Dumping data for table student

|  |
| --- |
| sam |
| Elis |

9. select COUNT(\*) from student JOIN takes

on student.student\_id = takes.student\_id WHERE takes.course\_id = 102;

# Database university

## Table structure for table student

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Null** | **Default** |
| ***student\_id*** | int | No |  |
| student\_name | varchar(25) | Yes | NULL |
| department\_name | varchar(25) | Yes | NULL |
| total\_credits | int | Yes | NULL |
| birthdate | date | Yes | NULL |

## Dumping data for table student

|  |
| --- |
| 2 |

10. SELECT COUNT(DISTINCT student.student\_id) AS student\_count, student.student\_name FROM student JOIN takes ON student.student\_id = takes.student\_id WHERE takes.course\_id = 102 GROUP BY student.student\_id, student.student\_name;

# Database university

## Table structure for table student

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Null** | **Default** |
| ***student\_id*** | int | No |  |
| student\_name | varchar(25) | Yes | NULL |
| department\_name | varchar(25) | Yes | NULL |
| total\_credits | int | Yes | NULL |
| birthdate | date | Yes | NULL |

## Dumping data for table student

|  |  |
| --- | --- |
| 1 | sam |
| 1 | Elis |

11.

SELECT COUNT(DISTINCT instructor.instructor\_id) AS number\_of\_instructors

FROM student

JOIN takes ON student.student\_id = takes.student\_id

JOIN teaches ON takes.course\_id = teaches.course\_id

JOIN instructor ON teaches.instructor\_id = instructor.instructor\_id

WHERE student.student\_name = 'sam';

# Database university

## Table structure for table student

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Null** | **Default** |
| ***student\_id*** | int | No |  |
| student\_name | varchar(25) | Yes | NULL |
| department\_name | varchar(25) | Yes | NULL |
| total\_credits | int | Yes | NULL |
| birthdate | date | Yes | NULL |

## Dumping data for table student

|  |
| --- |
| 2 |

12.

SELECT COUNT(student.student\_id) from student JOIN takes ON student.student\_id = takes.student\_id WHERE year(CURRENT\_TIME) - year(takes.date\_registered) > 1;

# Database university

## Table structure for table student

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Null** | **Default** |
| ***student\_id*** | int | No |  |
| student\_name | varchar(25) | Yes | NULL |
| department\_name | varchar(25) | Yes | NULL |
| total\_credits | int | Yes | NULL |
| birthdate | date | Yes | NULL |

## Dumping data for table student

|  |
| --- |
| 0 |

13. SELECT credits

FROM course

WHERE course\_id = 201;

# Database university

## Table structure for table course

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Null** | **Default** |
| ***course\_id*** | int | No |  |
| title | varchar(25) | Yes | NULL |
| department\_name | varchar(25) | Yes | NULL |
| credits | int | Yes | NULL |

## Dumping data for table course

|  |
| --- |
| 3 |

14. SELECT student.student\_id, student.student\_name, course.title AS course\_name, instructor.instructor\_name

FROM student

JOIN takes ON student.student\_id = takes.student\_id

JOIN course ON takes.course\_id = course.course\_id

JOIN teaches ON takes.course\_id = teaches.course\_id

JOIN instructor ON teaches.instructor\_id = instructor.instructor\_id;

# Database university

## Dumping data for table course

|  |  |  |  |
| --- | --- | --- | --- |
| 2004 | Elis | dbms | aaa |
| 2001 | sam | dbms | aaa |
| 2004 | Elis | os | aaa |
| 2001 | sam | os | aaa |
| 2004 | Elis | dbms | bbb |
| 2001 | sam | dbms | bbb |
| 2004 | Elis | os | bbb |
| 2001 | sam | os | bbb |
| 2002 | mary | mechanics | ccc |
| 2002 | mary | foundation Engineering | ccc |
| 2003 | judit | signals and system | ddd |

15. SELECT course.title FROM course INNER JOIN teaches ON course.course\_id = teaches.course\_id;

**Database university**

**Table structure for table course**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column | Type | Null | Default | Links to | Comments | Media type |
| course\_id | int(11) | No |  |  |  | |
| title | varchar(25) | Yes | NULL |  |  | |
| department\_name | varchar(25) | Yes | NULL |  |  | |
| credits | int(11) | Yes | NULL |  |  | |

**Dumping data for table course**

|  |
| --- |
| title |
| dbms |
| os |
| dbms |
| os |
| mechanics |
| foundation Engineering |
| signals and system |