**Database Systems Quiz 5**

**U00839259 (syrrmlla)**

1. **[30 pts] Using the MySQL scripts in the companydb.sql file, generate a new company database. The companydb.sql file can be found on canvas. Put a screenshot of your final database setup.**

**Graphical user interface, text, application

Description automatically generated**

**A screenshot of a computer

Description automatically generated**

**2. [70 pts] Write/Run SQL queries for the following use cases (no screenshots of these queries and   
their input/output needed).   
   
a. [5 pts] Retrieve the name and salary of all employees.**

**INPUT:**

SELECT fname, minit, lname, salary FROM employee

**OUTPUT:**

|  |  |  |  |
| --- | --- | --- | --- |
| Jared | D | James | 85000.00 |
| Jon | C | Jones | 45000.00 |
| Justin | n | Mark | 40000.00 |
| Brad | C | Knight | 44000.00 |
| John | B | Smith | 30000.00 |
| Evan | E | Wallis | 92000.00 |
| Josh | U | Zell | 56000.00 |
| Andy | C | Vile | 53000.00 |
| Tom | G | Brand | 62500.00 |
| Jenny | F | Vos | 61000.00 |
| Chris | A | Carter | 43000.00 |
| Kim | C | Grace | 79000.00 |
| Jeff | H | Chase | 44000.00 |
| Franklin | T | Wong | 40000.00 |
| Alex | D | Freed | 89000.00 |
| Bonnie | S | Bays | 70000.00 |
| Alec | C | Best | 60000.00 |
| Sam | S | Snedden | 48000.00 |
| Joyce | A | English | 25000.00 |
| John | C | James | 81000.00 |
| Nandita | K | Ball | 62000.00 |
| Bob | B | Bender | 96000.00 |
| Jill | J | Jarvis | 36000.00 |
| Kate | W | King | 44000.00 |
| Lyle | G | Leslie | 41000.00 |
| Billie | J | King | 38000.00 |
| Jon | A | Kramer | 41500.00 |
| Ray | H | King | 44500.00 |
| Gerald | D | Small | 29000.00 |
| Arnold | A | Head | 33000.00 |
| Helga | C | Pataki | 32000.00 |
| Naveen | B | Drew | 34000.00 |
| Carl | E | Reedy | 32000.00 |
| Sammy | G | Hall | 37000.00 |
| Red | A | Bacher | 33500.00 |
| Ramesh | K | Narayan | 38000.00 |
| James | E | Borg | 55000.00 |
| Jennifer | S | Wallace | 43000.00 |
| Ahmad | V | Jabbar | 25000.00 |
| Alicia | J | Zelaya | 25000.00 |

**b. [5 pts] Retrieve the name and address of all employees who work for the 'Sales'**   
**department.**

**INPUT:**

select a.Fname,a.Minit,a.Lname,a.Address from EMPLOYEE a,DEPARTMENT b where a.Dno=b.Dnumber and b.Dname='Sales';

**OUTPUT:**

|  |  |  |  |
| --- | --- | --- | --- |
| Bob | B | Bender | 8794 Garfield, Chicago, IL |
| Jill | J | Jarvis | 6234 Lincoln, Chicago, IL |
| Kate | W | King | 1976 Boone Trace, Chicago, IL |
| Lyle | G | Leslie | 417 Hancock Ave, Chicago, IL |
| Billie | J | King | 556 Washington, Chicago, IL |
| Jon | A | Kramer | 1988 Windy Creek, Seattle, WA |
| Ray | H | King | 213 Delk Road, Seattle, WA |
| Gerald | D | Small | 122 Ball Street, Dallas, TX |
| Arnold | A | Head | 233 Spring St, Dallas, TX |
| Helga | C | Pataki | 101 Holyoke St, Dallas, TX |
| Naveen | B | Drew | 198 Elm St, Philadelphia, PA |
| Carl | E | Reedy | 213 Ball St, Philadelphia, PA |
| Sammy | G | Hall | 433 Main Street, Miami, FL |
| Red | A | Bacher | 196 Elm Street, Miami, FL |

**c. [5 pts] Retrieve the name and address of all employees who work either for the 'Sales' or ‘Administration’ department.**

**INPUT**:

select a.Fname,a.Minit,a.Lname,a.Address from EMPLOYEE a,DEPARTMENT b where a.Dno=b.Dnumber and b.Dname in('Sales', 'Administration');

**OUTPUT:**

|  |  |  |  |
| --- | --- | --- | --- |
| Jennifer | S | Wallace | 291 Berry, Bellaire, TX |
| Ahmad | V | Jabbar | 980 Dallas, Houston, TX |
| Alicia | J | Zelaya | 3321 Castle, Spring, TX |
| Bob | B | Bender | 8794 Garfield, Chicago, IL |
| Jill | J | Jarvis | 6234 Lincoln, Chicago, IL |
| Kate | W | King | 1976 Boone Trace, Chicago, IL |
| Lyle | G | Leslie | 417 Hancock Ave, Chicago, IL |
| Billie | J | King | 556 Washington, Chicago, IL |
| Jon | A | Kramer | 1988 Windy Creek, Seattle, WA |
| Ray | H | King | 213 Delk Road, Seattle, WA |
| Gerald | D | Small | 122 Ball Street, Dallas, TX |
| Arnold | A | Head | 233 Spring St, Dallas, TX |
| Helga | C | Pataki | 101 Holyoke St, Dallas, TX |
| Naveen | B | Drew | 198 Elm St, Philadelphia, PA |
| Carl | E | Reedy | 213 Ball St, Philadelphia, PA |
| Sammy | G | Hall | 433 Main Street, Miami, FL |
| Red | A | Bacher | 196 Elm Street, Miami, FL |
|  |  |  |  |

**d. [5 pts] Retrieve the name and address of all employees who work either for the 'Sales' or ‘Administration’ department, sorted alphabetically by last name, then first name.**

**INPUT:**

select a.Fname,a.Minit,a.Lname,a.Address from EMPLOYEE a,DEPARTMENT b where a.Dno=b.Dnumber and b.Dname in('Sales', 'Administration') ORDER BY a.Lname, a.Fname ASC;

**OUTPUT:**

|  |  |  |  |
| --- | --- | --- | --- |
| Red | A | Bacher | 196 Elm Street, Miami, FL |
| Bob | B | Bender | 8794 Garfield, Chicago, IL |
| Naveen | B | Drew | 198 Elm St, Philadelphia, PA |
| Sammy | G | Hall | 433 Main Street, Miami, FL |
| Arnold | A | Head | 233 Spring St, Dallas, TX |
| Ahmad | V | Jabbar | 980 Dallas, Houston, TX |
| Jill | J | Jarvis | 6234 Lincoln, Chicago, IL |
| Billie | J | King | 556 Washington, Chicago, IL |
| Kate | W | King | 1976 Boone Trace, Chicago, IL |
| Ray | H | King | 213 Delk Road, Seattle, WA |
| Jon | A | Kramer | 1988 Windy Creek, Seattle, WA |
| Lyle | G | Leslie | 417 Hancock Ave, Chicago, IL |
| Helga | C | Pataki | 101 Holyoke St, Dallas, TX |
| Carl | E | Reedy | 213 Ball St, Philadelphia, PA |
| Gerald | D | Small | 122 Ball Street, Dallas, TX |
| Jennifer | S | Wallace | 291 Berry, Bellaire, TX |
| Alicia | J | Zelaya | 3321 Castle, Spring, TX |

**e. [5 pts] Retrieve all employees in the research department whose salary is between   
$30,000 and $40,000.**

**INPUT:**

select a.\* from EMPLOYEE a,DEPARTMENT b where a.Dno=b.Dnumber and b.Dname= 'RESEARCH' AND a.salary BETWEEN 30000 AND 40000;

**OUTPUT:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| John | B | Smith | 123456789 | 1955-01-09 | 731 Fondren, Houston, TX | M | 30000.00 | 333445555 | 5 |
| Franklin | T | Wong | 333445555 | 1945-12-08 | 638 Voss, Houston, TX | M | 40000.00 | 888665555 | 5 |
| Ramesh | K | Narayan | 666884444 | 1952-09-15 | 971 Fire Oak, Humble, TX | M | 38000.00 | 333445555 | 5 |

**f. [5 pts] List all name of employees, the projects that they have been working on, and the amount of time they spent for those projects.**

**INPUT:**

Select a.fname, a.minit, a.lname, p.pname, w.hours from Employee a, Works\_on w, project p WHERE a.ssn=w.essn and w.pno=p.pnumber

**OUTPUT:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Franklin | T | Wong | Computerization | 10.0 |
| Ahmad | V | Jabbar | Computerization | 35.0 |
| Alicia | J | Zelaya | Computerization | 10.0 |
| Evan | E | Wallis | DatabaseSystems | 40.0 |
| Josh | U | Zell | DatabaseSystems | 48.0 |
| Andy | C | Vile | DatabaseSystems | 40.0 |
| Tom | G | Brand | DatabaseSystems | 40.0 |
| Jenny | F | Vos | DatabaseSystems | 40.0 |
| Chris | A | Carter | DatabaseSystems | 40.0 |
| Arnold | A | Head | DatabaseSystems | 40.0 |
| Red | A | Bacher | DatabaseSystems | 10.0 |
| Alex | D | Freed | InkjetPrinters | 40.0 |
| Bonnie | S | Bays | InkjetPrinters | 40.0 |
| Alec | C | Best | InkjetPrinters | 40.0 |
| Sam | S | Snedden | InkjetPrinters | 40.0 |
| Jill | J | Jarvis | InkjetPrinters | 40.0 |
| Lyle | G | Leslie | InkjetPrinters | 40.0 |
| Billie | J | King | InkjetPrinters | 40.0 |
| Ray | H | King | InkjetPrinters | 40.0 |
| John | C | James | LaserPrinters | 40.0 |
| Nandita | K | Ball | LaserPrinters | 44.0 |
| Jon | A | Kramer | LaserPrinters | 40.0 |
| Kim | C | Grace | Middleware | 40.0 |
| Jeff | H | Chase | Middleware | 46.0 |
| Helga | C | Pataki | Middleware | 40.0 |
| Red | A | Bacher | Middleware | 10.0 |
| Jennifer | S | Wallace | Newbenefits | 20.0 |
| Ahmad | V | Jabbar | Newbenefits | 5.0 |
| Alicia | J | Zelaya | Newbenefits | 30.0 |
| Jared | D | James | OperatingSystems | 40.0 |
| Jon | C | Jones | OperatingSystems | 40.0 |
| Justin | n | Mark | OperatingSystems | 40.0 |
| Brad | C | Knight | OperatingSystems | 40.0 |
| Gerald | D | Small | OperatingSystems | 40.0 |
| Naveen | B | Drew | OperatingSystems | 40.0 |
| Carl | E | Reedy | OperatingSystems | 40.0 |
| Sammy | G | Hall | OperatingSystems | 40.0 |
| Red | A | Bacher | OperatingSystems | 30.0 |
| John | B | Smith | ProductX | 32.5 |
| Joyce | A | English | ProductX | 20.0 |
| John | B | Smith | ProductY | 7.5 |
| Franklin | T | Wong | ProductY | 10.0 |
| Joyce | A | English | ProductY | 20.0 |
| Franklin | T | Wong | ProductZ | 10.0 |
| Ramesh | K | Narayan | ProductZ | 40.0 |
| Franklin | T | Wong | Reorganization | 10.0 |
| James | E | Borg | Reorganization | 0.0 |
| Jennifer | S | Wallace | Reorganization | 15.0 |

**g. [5 pts] Retrieve all employees whose address is in Atlanta, GA.**

**INPUT:**

SELECT \* FROM employee WHERE address LIKE '%Atlanta%';

**OUTPUT:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Jared | D | James | 111111100 | 1966-10-10 | 123 Peachtree, Atlanta, GA | M | 85000.00 | null | 6 |
| Jon | C | Jones | 111111101 | 1967-11-14 | 111 Allgood, Atlanta, GA | M | 45000.00 | 111111100 | 6 |
| Justin | n | Mark | 111111102 | 1966-01-12 | 2342 May, Atlanta, GA | M | 40000.00 | 111111100 | 6 |
| Brad | C | Knight | 111111103 | 1968-02-13 | 176 Main St., Atlanta, GA | M | 44000.00 | 111111100 | 6 |

**h. [5 pts] List all the department names which are located in Houston.**

**INPUT:**

select a.dname from DEPARTMENT a,DEPT\_LOCATIONS b WHERE a.dnumber=b.dnumber and b.dlocation LIKE '%Houston%';

**OUTPUT:**

|  |
| --- |
| Headquarters |
| Research |

**i. [5 pts] Retrieve all distinct salary values of very employee.**

**INPUT:**

select DISTINCT Salary from EMPLOYEE;

**OUTPUT:**

|  |
| --- |
| 85000.00 |
| 45000.00 |
| 40000.00 |
| 44000.00 |
| 30000.00 |
| 92000.00 |
| 56000.00 |
| 53000.00 |
| 62500.00 |
| 61000.00 |
| 43000.00 |
| 79000.00 |
| 89000.00 |
| 70000.00 |
| 60000.00 |
| 48000.00 |
| 25000.00 |
| 81000.00 |
| 62000.00 |
| 96000.00 |
| 36000.00 |
| 41000.00 |
| 38000.00 |
| 41500.00 |
| 44500.00 |
| 29000.00 |
| 33000.00 |
| 32000.00 |
| 34000.00 |
| 37000.00 |
| 33500.00 |
| 55000.00 |

**j. [5 pts] A new person whose name is Joshua T Miller has been hired. Add this new   
employed person to the system along with his following information:   
SSN: 456363313   
birth date: 1971-10-18   
address: 98 Oak Forest, Katy, TX   
salary: 37000   
superssn: 456363313   
dno: 4**

**INPUT:**

INSERT INTO `employee` (`fname`, `minit`, `lname`, `ssn`, `bdate`, `address`,

`sex`, `salary`, `superssn`, `dno`) VALUES

('Joshua', 'T', 'Miller', '456363313', '1971-10-18', '98 Oak Forest, Katy, TX',

'M', '37000.00', '456363313', 4);

**OUTPUT:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3 | 87 | 14:41:19 | INSERT INTO `employee` (`fname`, `minit`, `lname`, `ssn`, `bdate`, `address`, `sex`, `salary`, `superssn`, `dno`) VALUES ('Joshua', 'T', 'Miller', '456363313', '1971-10-18', '98 Oak Forest, Katy, TX', 'M', '37000.00', '456363313', 4) | 1 row(s) affected | 0.016 sec |

**k. [5 pts] Joshua’s salary has been increased with 10%. Make the required update.**

**INPUT:**

SET SQL\_SAFE\_UPDATES = 0;

update EMPLOYEE set salary = salary + (salary \* 10 / 100) where fname = 'Joshua';

**OUTPUT:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3 | 94 | 16:06:52 | update EMPLOYEE set salary = salary \* 10 / 100 where fname = 'Joshua' | 1 row(s) affected Rows matched: 1  Changed: 1  Warnings: 0 | 0.015 sec |

**l. [5 pts] Joshua left the company after working 3 years. Delete his personal record from the system.**

**INPUT:**

SET SQL\_SAFE\_UPDATES = 0;

delete from EMPLOYEE where fname = 'Joshua';

**OUTPUT:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3 | 96 | 16:11:04 | delete from EMPLOYEE where fname = 'Joshua' | 1 row(s) affected | 0.015 sec |

**m. [10 pts] Make a list of all project numbers and project names for projects that involve an employee whose last name is 'Smith', either as a worker or as a manager of the department that controls the project.**

**INPUT:**

Select pr.pnumber,pr.pname,dept.dnumber,dept.dname from EMPLOYEE as emp join department dept join project as pr on dept.dnumber = pr.dnum where lname = 'Smith';

**OUTPUT:**

|  |  |  |  |
| --- | --- | --- | --- |
| 92 | LaserPrinters | 7 | Hardware |
| 91 | InkjetPrinters | 7 | Hardware |
| 63 | Middleware | 6 | Software |
| 62 | DatabaseSystems | 6 | Software |
| 61 | OperatingSystems | 6 | Software |
| 30 | Newbenefits | 4 | Administration |
| 20 | Reorganization | 1 | Headquarters |
| 10 | Computerization | 4 | Administration |
| 3 | ProductZ | 5 | Research |
| 2 | ProductY | 5 | Research |
| 1 | ProductX | 5 | Research |