

**数据库系统**

**实 验 报 告**

学 号： 2021211901

学生姓名： 吕长鸿

班 级： 211102

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| **评价** | **优** | **良** | **中** | **差** | **评语：** |
| **MySQL实践** |  |  |  |  |
| **Company查询** |  |  |  |  |
| **实验报告** |  |  |  |  | **评分** |

**2023-04**

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| 姓名 | 吕长鸿 | | 院系 | 软件学院 | | 学号 | 2021211901 |
| 任课教师 | | 王金宝 | | | 指导教师 | 王金宝 | |
| 实验地点 | | 研究院2楼机房 | | | 实验时间 | 2023年 4 月9日 | |
| 实验名称 | | 实验1: MySQL关系数据库管理系统及SQL语言的使用 | | | | | |
| 实验环境 | | Debian 11，MariaDB 10（MySQL） | | | | | |
| 实验目的 | | | | | | | |
| 掌握MySQL关系数据库管理系统的基本命令，并熟练使用SQL语言管理MySQL数据库。掌握SQL语言的使用方法，学会使用SQL语言进行关系数据库查询，特别是聚集查询、连接查询和嵌套查询。 | | | | | | | |
| 实验过程和结果 | | | | | | | |
| **MySQL手册实践**  **4.1:**                  **4.2:**                    **COMPANY数据库中的实验内容**  **1select ename from employee, works\_on, project where project.pname = "SQL Project" and project.pno = works\_on.pno and works\_on.essn = employee.essn;**    **2.** **select ename, address from employee as e, department as d where d.dname = "Research Department" and d.dno = e.dno and e.salary < 9000;**    **3.** **select ename from employee where not exists (select \* from works\_on where essn = employee.essn and pno = 'P001');**    **4.** **select ename, dname from employee natural join department where superssn in (select essn from employee where ename = 'Messi');**    **5.** **select essn from employee as e where exists (select \* from works\_on where essn = e.essn and pno = 'P001') and exists (select \* from works\_on where essn = e.essn and pno = 'P002');**    **6.** **select essn, ename from employee where not exists (select pno from project where not exists (select pno from project where not exists (select \* from works\_on where essn = employee.essn and** **pno = project.pno)));**  **7.** **select dname from department natural join employee group by dno having avg(salary) < 10000;**    **8.** **select ename from employee where essn in (select essn from works\_on group by essn**  **having count(distinct pno) >= 2 and sum(hours) >= 8);**    **9.** **with total\_hours as (select essn, sum(hours) as thours from works\_on group by essn) select dno, sum(salary)/sum(thours) from employee natural join total\_hours group by dno;** | | | | | | | |
| 实验结论（结果分析、遇到的困难和解决方法等） | | | | | | 备注 |  |
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