作业四

**(1)统计所有部⻔的员工数目，输出部⻔名称和其员工数目。注:使用外连接，保证输出所有部**

SELECT NAME,**COUNT**(EMP\_NAME)

FROM(

SELECT **CONCAT**(LAST\_NAME,FIRST\_NAME) AS EMP\_NAME, NAME

FROM department NATURAL LEFT OUTER JOIN employee) AS t

GROUP BY NAME

**(2)查询交易历史表(acc\_transaction)里所有交易对应执行交易的出纳员编号(TELLER\_EMP\_ID)和交易对应账 户的开户员工编号**

SELECT TXN\_ID,TELLER\_EMP\_ID,OPEN\_EMP\_ID

FROM acc\_transaction JOIN account USING(ACCOUNT\_ID)

**(3)查询位于“上海市”的客户的单位联系人信息，输出其姓名、职位和在职时间(使用START\_DATE字段计 算)。**

SELECT **CONCAT**(LAST\_NAME,FIRST\_NAME),TITLE,TIMESTAMPDIFF(**YEAR**, START\_DATE, CURDATE())

FROM officer JOIN customer USING(CUST\_ID)

WHERE CITY="上海市"

**(4)利用函数，实现用迭代输出某个课程(作为函数输入)的所有前期必修课程号(包含本课程的课程号)， 用'&'隔开，按照先父后子的顺序输出，请勿输出多余符号。输入以下指令以查看结果。**

CREATE DEFINER=`root`@`localhost` FUNCTION `getPrevious`(cid VARCHAR(50)) RETURNS varchar(50) CHARSET utf8mb4 COLLATE utf8mb4\_general\_ci

BEGIN

DECLARE result VARCHAR(50);

DECLARE pretemp VARCHAR(50);

SET result = '';

SET pretemp = cid;

WHILE pretemp IS NOT NULL DO

IF result = '' THEN

SET result = **CONCAT**(pretemp,result);

ELSE

SET result = **CONCAT**(pretemp, ' & ',result);

END IF;

SELECT GROUP\_CONCAT(P\_ID) INTO pretemp

FROM course

WHERE FIND\_IN\_SET(C\_ID, pretemp) > 0;

END WHILE;

RETURN result;

END

**5)利用函数，实现用迭代输出某个课程(作为函数输入)的所有后续可修课程号(包含本课程的课程号)，用' , '隔开，请勿输出多余符号。输入以下指令以查看结果**

CREATE DEFINER=`root`@`localhost` FUNCTION `getNext`(cid VARCHAR(100)) RETURNS varchar(100) CHARSET utf8mb4 COLLATE utf8mb4\_general\_ci

BEGIN

DECLARE result VARCHAR(100);

DECLARE nexttemp VARCHAR(100);

SET result = '';

SET nexttemp = cid;

WHILE nexttemp IS NOT NULL DO

IF result='' THEN

SET result = **CONCAT**(result, nexttemp);

ELSE

SET result = **CONCAT**(result, ' , ', nexttemp);

END IF;

SELECT GROUP\_CONCAT(C\_ID) INTO nexttemp

FROM course

WHERE FIND\_IN\_SET(P\_ID, nexttemp) > 0;

END WHILE;

RETURN result;

END

**(6)定义视图v\_getEmpHeadOffice，定义时候使用with check option子句，从employee表中找出 ASSIGNED\_BRANCH\_ID为1(即所在分支机构为“上海市总行”)的员工信息，输出名、姓、开始/就职日期、职位 名称、所在分支结构编号、所在部⻔编号、上机领导编号。输入下面的指令往该视图中插入数据，能否成功?为什 么?**

CREATE VIEW v\_getEmpHeadOffice AS

SELECT

`employee`.`FIRST\_NAME` AS `FIRST\_NAME`,

`employee`.`LAST\_NAME` AS `LAST\_NAME`,

`employee`.`START\_DATE` AS `START\_DATE`,

`employee`.`TITLE` AS `TITLE`,

`employee`.`ASSIGNED\_BRANCH\_ID` AS `ASSIGNED\_BRANCH\_ID`,

`employee`.`DEPT\_ID` AS `DEPT\_ID`,

`employee`.`SUPERIOR\_EMP\_ID` AS `SUPERIOR\_EMP\_ID`

FROM

`employee`

WHERE

( `employee`.`ASSIGNED\_BRANCH\_ID` = 1 )

WITH CHECK OPTION;

不能成功，因为插入的数据中ASSIGNED\_BRANCH\_ID为2，不满足限制条件，插入后不能通过视图看到修改后的数据。

**(7)定义视图v\_getCustbyProCount，从account表中找出购买产品数量超过2个的客户，输出属性包括账户编 号(CUST\_ID)、该账户购买产品个数(命名为Count\_Acc)、该账户各产品可用余额总数(命名为 Sum\_Avail\_Balance)、该账户各产品可用余额平均数(命名为 Avg\_Avail\_Balance)。**

CREATE VIEW v\_getCustbyProCount AS

SELECT CUST\_ID,**COUNT**(PRODUCT\_CD) AS CountAcc,**SUM**(AVAIL\_BALANCE) AS Sum\_Avail\_Balance,**AVG**(AVAIL\_BALANCE) AS Avg\_Avail\_Balance

FROM account

GROUP BY CUST\_ID

HAVING **COUNT**(PRODUCT\_CD)>2;

**(8)定义存储过程getEmpInfobyDept，接收输入参数DEPT\_ID，列出属于指定部⻔编号的员工信息，输出属性 包括员工编号EMP\_ID、姓名(LAST\_NAME与FIRST\_NAME拼接)、开始/就职日期(START\_DATE)、职位名称 (TITLE)、所在分支机构名称(NAME)、上级领导姓名(LAST\_NAME与FIRST\_NAME拼接)**

CREATE DEFINER=`root`@`localhost` PROCEDURE `getEmpInfobyDept`(IN dept int)

BEGIN

(SELECT e1.EMP\_ID,**CONCAT**(e1.LAST\_NAME,e1.FIRST\_NAME),e1.START\_DATE,e1.TITLE,b.NAME,**CONCAT**(e2.LAST\_NAME,e2.FIRST\_NAME)

FROM employee as e1,branch as b,employee as e2

WHERE e1.DEPT\_ID=dept AND e1.ASSIGNED\_BRANCH\_ID=b.BRANCH\_ID AND (e1.SUPERIOR\_EMP\_ID=e2.EMP\_ID)

)UNION(

SELECT e1.EMP\_ID,**CONCAT**(e1.LAST\_NAME,e1.FIRST\_NAME),e1.START\_DATE,e1.TITLE,b.NAME,NULL

FROM employee as e1,branch as b

WHERE e1.DEPT\_ID=dept AND e1.ASSIGNED\_BRANCH\_ID=b.BRANCH\_ID AND **ISNULL**(e1.SUPERIOR\_EMP\_ID));

END