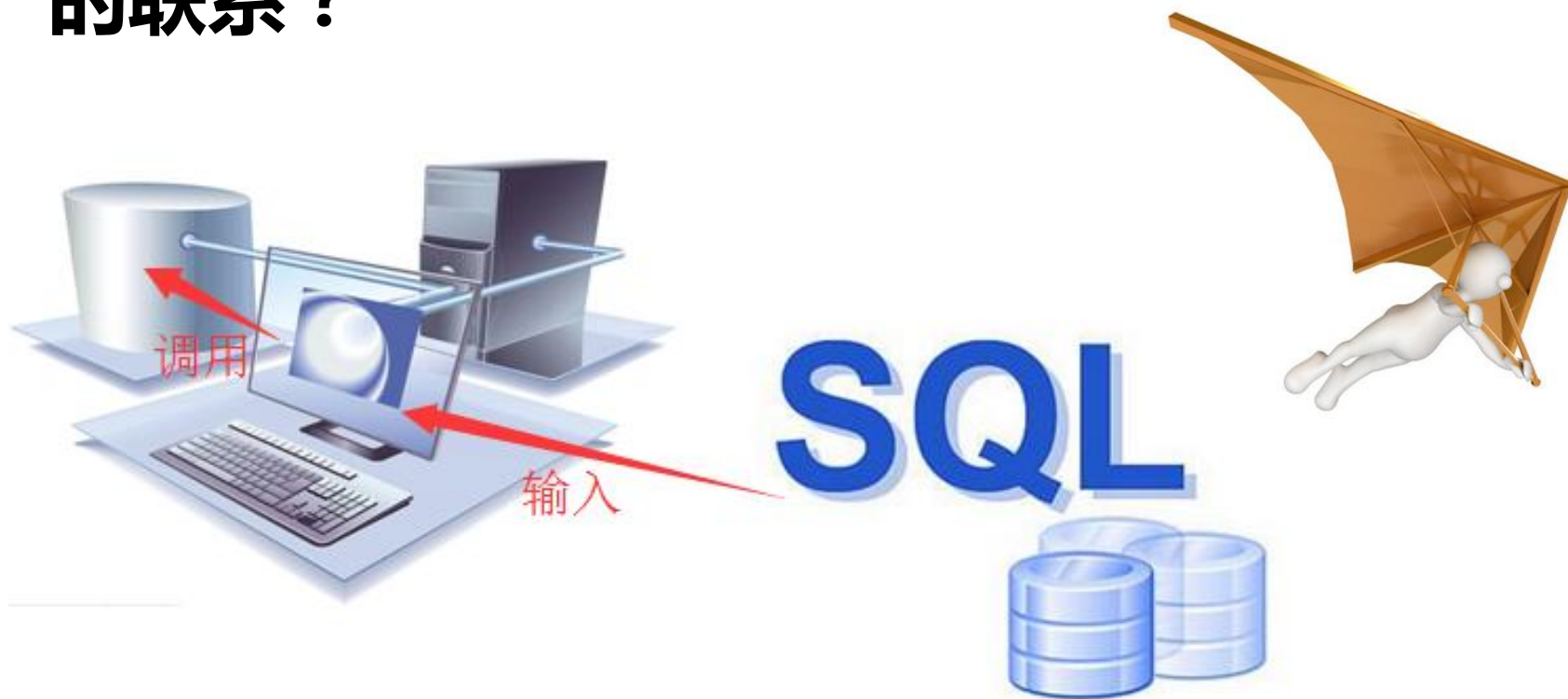**CDA数据分析师就业班**
之
MySQL基础

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数据库、数据库管理系统与SQL语言之间的联系？

共需要安装以下3个文件：

mysql-installer-
community-5.7.
17.0

Navicat for
MySQL

Sublime Text3

下载方法：
http://weibo.com/ttarticle/p/show?id=2309404060872833142672

安装方法：
http://weibo.com/ttarticle/p/show?id=2309404060970669498447

数据库建立

1. 创建数据库
create database test1;

2. 查看数据库
show databases;

3. 选择数据库
use test1;

4. 删除数据库
drop database test1;

表空间

1. 创建表

```
create table a1(id int(10),
                name varchar(20),
                sex varchar(10),
                salary float);
```

数据类型（共3大类）:数值型，字符型，日期型
数值型：int整数型，float浮点型
字符型：char，varchar
日期型：datetime "YYYY-MM-DD hh:mm:ss"

2. 查询表

```
show tables; #表名称
describe a1; #表结构
```

3. 修改表

```
alter table a1 rename b1; #修改表名称
alter table a1 add column score float; #添加变量
alter table a1 change column score s_score int(10); #修改变量
alter table a1 drop s_score; #删除变量
```

4. 删除表

```
drop table a1;
```

约束的作用？

1.防止将错误数据插入表；
2.保持多个表之间数据的一致性；

约束类型：

主键约束、外键约束、非空约束、唯一约束、检查约束

1. 创建主键约束

```
create table s_user(u_id int auto_increment primary key,
                    u_name varchar(20),
                    u_pwd varchar(20));
```

2. 创建外键约束
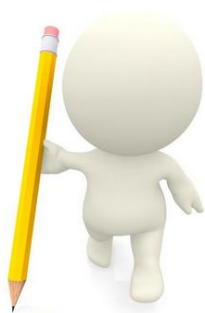
```
create table s_order(o_id int auto_increment primary key,
                     o_buyer_id int,
                     o_totalprices float,
            foreign key(o_buyer_id) references s_user(u_id));
```

表管理

1. 添加数据
insert into s_user(u_name,u_pwd) values("carry","123");
#一次性插入多行
insert into s_user(u_name,u_pwd) values("carry","123"),
　　　　　　　　　　　　　　　　　　　　　　　　("harry","456"),
　　　　　　　　　　　　　　　　　　　　　　　　("marry","789");

2. 修改数据
updates_user set u_pwd="963" where u_name="harry";

3. 删除数据
delete from s_user where u_name="marry";

员工号	员工姓名	职位	直属领导	雇佣时间	薪水	津贴	部门号
empno	ename	job	mgr	hiredate	sal	comm	deptno
7369	smith	clerk	7902	1980-12-17 00:00:00	800	NULL	20
7499	allen	salesman	7698	1981-02-20 00:00:00	1600	300	30
7521	ward	salesman	7698	1981-02-22 00:00:00	1250	500	30
7566	jones	manager	7839	1981-04-02 00:00:00	2975	NULL	20
7654	martin	salesman	7698	1981-09-28 00:00:00	1250	1400	30
7698	blake	manager	7839	1981-05-01 00:00:00	2850	NULL	30
7782	clark	manager	7839	1981-06-09 00:00:00	2450	NULL	10
7788	scott	analyst	7566	1987-04-19 00:00:00	3000	NULL	20
7839	king	persident	NULL	1981-11-17 00:00:00	5000	NULL	10
7844	turner	salesman	7698	1981-09-08 00:00:00	1500	0	30
7876	adams	clerk	7788	1987-05-23 00:00:00	1100	NULL	20
7900	james	clerk	7698	1981-12-03 00:00:00	950	NULL	30
7902	ford	analyst	7566	1981-12-03 00:00:00	3000	NULL	20
7934	miller	clerk	7782	1982-01-23 00:00:00	1300	NULL	10

select * from table
where   条件查询
group by   分组查询
having   分组后结果查询
order by   结果排序

1. 查询emp中所有信息
select * from emp;
2. 查询职业为销售人员的信息
select * from emp where job='SALESMAN';
3. 按部门对所有人进行分组
select * from emp group by deptno;
4. 按部门对销售人员进行分组
select * from emp group by deptno having job = "salesman";
5. 按薪资对所有人进行排序
select * from emp order by sal;

逻辑操作符

```
and/or        =>       且/或
!=(<>)        =>       不等于
is null        =>       查询空值
like            =>        模糊查询
between ``` and ```    =>   b<=a<c
```

逻辑表达式

```
case when ``` else ``` end
select ename,sal,case when sal<= 2000 then '过低'
                when sal>= 4000 then '过高'
                else '可行'
                end as status
from emp where deptno = 10;
```

多表查询

**创建两张
测试表：**

表名:a1	
x	y
1	one
2	two
2	two
3	three

表名:a2	
x	z
1	one
2	two
4	four

纵向查询
select * from a1
union
select * from a2;

横向查询
-内连接
select * from a1 inner join a2 on a1.x=a2.m;
select * from a1 join a2 on a1.x=a2.m;
select * from a1,a2 where a1.x=a2.m;
-- 左链接
select * from a1 left join a2 on a1.x=a2.m;
-- 右链接
select * from a1 right join a2 on a1.x=a2.m;

子查询

创建测试表players：

球员编号	球员姓名	姓首字母	生日	性别	加入时间	街道	房号	邮政号	乡镇	电话	联盟编号
PLAYERNO	NAME	INITIALS	BIRTH_DATE	SEX	JOINED	STREET	HOUSENO	POSTCODE	TOWN	PHONENO	LEAGUENO
2	Everett	R	1948-09-01	M	1975	Stoney Road	43	3575NH	Stratford	070-237893	2411
6	Parmenter	R	1964-06-25	M	1977	Haseltine Lane	80	1234KK	Stratford	070-476537	8467
7	Wise	GWS	1963-05-11	M	1981	Edgecombe Way	39	9758VB	Stratford	070-347689	NULL
8	Newcastle	B	1962-07-08	F	1980	Station Road	4	6584WO	Inglewood	070-458458	2983
27	Collins	DD	1964-12-28	F	1983	Long Drive	804	8457DK	Eltham	079-234857	2513
28	Collins	C	1963-06-22	F	1983	Old Main Road	10	1294QK	Midhurst	010-659599	NULL
39	Bishop	D	1956-10-29	M	1980	Eaton Square	78	9629CD	Stratford	070-393435	NULL
44	Baker	E	1963-01-09	M	1980	Lewis Street	23	4444LJ	Inglewood	070-368753	1124
57	Brown	M	1971-08-17	M	1985	Edgecombe Way	16	4377CB	Stratford	070-473458	6409

83	Hope	PK	1956-11-11	M	1982	Magdalene Road	16A	1812UP	Stratford	070-353548	1608
95	Miller	P	1963-05-14	M	1972	High Street	33A	57460P	Douglas	070-867564	NULL
100	Parmenter	P	1963-02-28	M	1979	Haseltine Lane	80	6494SG	Stratford	070-494593	6524
104	Moorman	D	1970-05-10	F	1984	Stout Street	65	9437AO	Eltham	079-987571	7060
112	Bailey	IP	1963-10-01	F	1984	Vixen Road	8	6392LK	Plymouth	010-548745	1319

创建测试表players：

支付编号	球员编号	支付时间	总数
PAYMENTNO	PLAYERNO	PAYMENT_DATE	AMOUNT
1	6	1980-12-08	100
2	44	1981-05-05	75
3	27	1983-09-10	100
4	104	1984-12-08	50
5	44	1980-12-08	25
6	8	1980-12-08	25
7	44	1982-12-30	30
8	27	1984-11-12	75

子查询

1.表子查询 from型

select playerno from (select playerno,sex from players where playerno< 10) as players10 where sex='M';

2.行子查询 where型

select playerno from players where (sex, town)=(select sex,town from players where playerno = 100);

3.列子查询

· select playerno,name,town from players where playerno in (select playerno from players where sex="F");　**#in子查询**

· select playerno,birth_date,town from players as p1 where birth_date> any(select birth_date from players as p2 where p1.town = p2.town);　**#any子查询**

· select playerno,name,birth_date from players where birth_date<= all(select birth_date from players);　**#all子查询**

4. exists型子查询

select name,initials from players where exists (select * from penalties where playerno = players.playerno);

1. 数字运算

```
select deptno,
        avg(sal) as 平均值,
        min(sal) as 最小值,
        max(sal) as 最大值,
        sum(sal) as 工资合计
        count(ename) 部门人数,
        count(comm) 获得提成人数
from emp group by deptno;
```

2. 日期运算

```
select hiredate as 聘用日期,
date_add(hiredate,interval 1 day),
date_add(hiredate,interval 1 month),
date_add(hiredate,interval -1 month)
from emp;
```

3. 字符串运算

```
select substring(ename,1,4) from emp;  #截取字符串
select replace(ename,"smith","SMITH") from emp;  #替换字符串
select concat(job,sal) as data from emp;  #字符与数字合并
select convert(empno,signed) from emp;   #数字转字符
```

4. 正则表达式

```
#创建测试表并插入数据
create table aa1(id intauto_increment primary
key,datavarchar(20));
insert into aa1(data) values
("123"),("abc"),("123abc"),("abc123");
insert into aa1(data) values ("DeF456"),("456dEf");

select data from aa1 where data regexp "[0-9]";
select data from aa1 where data regexp "[a-z]";
select data from aa1 where data regexp "[De][Ee][Ff]";
```

数据审核

数据筛选

数据排序

数据透视

Thanks!
Carry.law

CDA 数据分析师3个月就业班

授课时间： 每周5天课程；每天9：30-12：00; 14：00-17：30; 18:30-20:30 晚自习
授课地点： 北京海淀区厂洼街三号丹龙大厦B3018
主讲老师： 马老师
助教老师： 余老师
课程咨询： 曹老师

座机：010-68472707 手机： 18810531180 QQ：3306541473

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