

DATABASE MANAGEMENT SYSTEMS-EXERCISE-2

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| V.LAXMANA VYAAS of CSE-2C |

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|bearing roll call 20R11A05B6|

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mysql> create table Branch

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-> (
->   branchNo char(10),
->   street char(25),
->   city varchar(25),
->   postcode char(10),
->   PRIMARY KEY(branchNo)
-> );

```

```

mysql> insert into Branch(branchNo,street,city,postcode) values

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-> ('B005','22 Deer St','Islington','SYI 4B9'),
-> ('B007','16 Argyll St','Scotland','AD3 F62'),
-> ('B003','163 Main Rd','Glasgow','G11 9QX'),
-> ('B004','32 Manse Rd','Bristol','BM10 IUQ'),
-> ('B002','56 Clover Dr','Jaipur','NW10 6EU');

```

```

mysql> select * from Branch;

```

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+-----+-----+-----+-----+
| branchNo | street      | city      | postcode |
+-----+-----+-----+-----+
| B002     | 56 Clover Dr | Jaipur    | NW10 6EU |
| B003     | 163 Main Rd  | Glasgow   | G11 9QX  |
| B004     | 32 Manse Rd  | Bristol   | BM10 IUQ |
| B005     | 22 Deer St   | Islington | SYI 4B9  |
| B007     | 16 Argyll St | Scotland  | AD3 F62  |
+-----+-----+-----+-----+

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mysql> create table Staff

```

```

-> (
->   staffNo char(10),
->   First_Name varchar(10),
->   Last_Name varchar(10),
->   position varchar(15),
->   sex char(1),
->   DOB char(15),
->   salary bigint,
->   branchNo char(10),
->   PRIMARY KEY(staffNo),
->   FOREIGN KEY(branchNo) REFERENCES Branch(branchNo)

```

```

mysql> insert into Staff(staffNo,First_Name,Last_Name,position,sex,DOB,salary,branchNo)
values

```

```

-> ('SL21','John','Cena','Manager','M','1945-10-01',30000,'B005'),
-> ('SG37','Ann','Prelt','Assistant','F','1960-11-10',12000,'B003'),
-> ('SG14','David','Brews','Supervisor','M','1958-03-24',18000,'B003'),
-> ('SA9','Mary','Evin','Assistant','F','1970-02-19',9000,'B007'),
-> ('SG5','Susan','Wojciki','Manager','F','1940-06-03',24000,'B003'),
-> ('SL41','Julie','Prince','Assistant','F','1965-06-13',9000,'B005');

```

```

mysql> select * from Staff;

```

```

+-----+-----+-----+-----+-----+-----+-----+-----+
| staffNo | First_Name | Last_Name | position | sex | DOB          | salary | branchNo |
+-----+-----+-----+-----+-----+-----+-----+-----+
| SA9     | Mary       | Evin      | Assistant | F   | 1970-02-19   | 9000   | B007     |
| SG14    | David      | Brews     | Supervisor | M   | 1958-03-24   | 18000  | B003     |
| SG37    | Ann        | Prelt     | Assistant  | F   | 1960-11-10   | 12000  | B003     |
| SG5     | Susan      | Wojciki   | Manager    | F   | 1940-06-03   | 24000  | B003     |
| SL21    | John       | Cena      | Manager    | M   | 1945-10-01   | 30000  | B005     |
| SL41    | Julie      | Prince    | Assistant  | F   | 1965-06-13   | 9000   | B005     |
+-----+-----+-----+-----+-----+-----+-----+-----+

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mysql> create table PropertyForRent
-> (
->   propertyNo char(10),
->   street char(20),
->   city varchar(10),
->   postcode char(10),
->   type varchar(10),
->   rooms smallint,
->   rent int,
->   ownerNo char(10),
->   staffNo char(10),
->   branchNo char(10),
->   PRIMARY KEY(propertyNo)
-> );

mysql> insert into
PropertyForRent(propertyNo,street,city,postcode,type,rooms,rent,ownerNo,staffNo,branchNo)
values
-> ('PA14','16 Holhead','Edinburgh','AV5 E2J','House',6,650,'CO46','SA9','B007'),
-> ('PL94','6 Argyll Rd','Brazil','NW2','Flat',4,400,'CO12','SG14','B005'),
-> ('PG4','6 Lawrence St','Glasgow','G11 9QX','Flat',5,657,'CO78',' ','B003'),
-> ('PG36','2 Manor St','Italy','G32 4QX','Flat',3,523,'CO93','SG37','B003'),
-> ('PG21','18 Dale St','Bangkok','G12','House',7,375,'CO87','SG37','B003'),
-> ('PG16','5 Novar Rd','London','G12 9AX','Flat',4,450,'CO93','SG14','B003');

mysql> select * from PropertyForRent;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| propertyNo | street      | city      | postcode | type  | rooms | rent | ownerNo | staffNo | branchNo |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| PA14       | 16 Holhead  | Edinburgh | AV5 E2J  | House | 6     | 650 | CO46    | SA9     | B007     |
| PG16       | 5 Novar Rd  | London    | G12 9AX  | Flat  | 4     | 450 | CO93    |         | B003     |
| PG21       | 18 Dale St  | Bangkok   | G12      | House | 7     | 375 | CO87    |         | B003     |
| PG36       | 2 Manor St  | Italy     | G32 4QX  | Flat  | 3     | 523 | CO93    |         | B003     |
| PG4        | 6 Lawrence St | Glasgow   | G11 9QX  | Flat  | 5     | 657 | CO78    |         | B003     |
| PL94       | 6 Argyll Rd | Brazil    | NW2      | Flat  | 4     | 400 | CO12    |         | B005     |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```

```

mysql> create table Client
-> (
->   clientNo char(10),
->   First_Name varchar(10),
->   Last_Name varchar(10),
->   telNo bigint,
->   preftype char(10),
->   maxRent int,
->   PRIMARY KEY(clientNo)
-> );

mysql> insert into Client(clientNo,First_Name,Last_Name,telNo,preftype,maxRent) values
-> ('CR76','John','Kims',0207-774-5632,'Flat',425),
-> ('CR56','Aline','Steves',0141-848-1825,'Flat',350),
-> ('CR74','Mike','Weel',01472-53450,'House',249),
-> ('CR51','Mary','Tregear',01220-31349,'Flat',598);

mysql> select * from Client;
+-----+-----+-----+-----+-----+-----+
| clientNo | First_Name | Last_Name | telNo  | preftype | maxRent |
+-----+-----+-----+-----+-----+-----+
| CR51     | Mary       | Tregear   | -30129 | Flat     | 598     |
| CR56     | Aline      | Steves    | -2532  | Flat     | 350     |
| CR74     | Mike       | Weel      | -51978 | House    | 249     |
| CR76     | John       | Kims      | -6199  | Flat     | 425     |
+-----+-----+-----+-----+-----+-----+

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-----
mysql> create table Viewing
-> (
->   clientNo char(10),
->   propertyNo char(10),
->   viewdate char(20),
->   comment char(20),
->   PRIMARY KEY(propertyNo)
-> );

mysql> insert into Viewing(clientNo,propertyNo,viewdate,comment) values
-> ('CR56','PA14','1904-03-24','too small'),
-> ('CR76','PG4','1904-04-20','too remote'),
-> ('CR56','PT4','1904-05-26',''),
-> ('CR51','PY14','1904-05-14','no dining room'),
-> ('CR56','PG36','1904-04-28','');

mysql> select * from Viewing;
+-----+-----+-----+-----+
| clientNo | propertyNo | viewdate | comment |
+-----+-----+-----+-----+
| CR56     | PA14       | 1904-03-24 | too small |
| CR56     | PG36       | 1904-04-28 |           |
| CR76     | PG4        | 1904-04-20 | too remote |
| CR56     | PT4        | 1904-05-26 |           |
| CR51     | PY14       | 1904-05-14 | no dining room |
+-----+-----+-----+-----+
-----

mysql> create table PrivateOwner
-> (
->   ownerNo char(10),
->   First_Name varchar(10),
->   Last_Name varchar(10),
->   address char(30),
->   telNo bigint,
->   PRIMARY KEY(ownerNo)
-> );

mysql> insert into PrivateOwner(ownerNo,First_Name,Last_Name,address,telNo) values
-> ('CO46','Joe','Albatross','2 Fergus Dr,Aberdeen AB2 7SX',01224-861212),
-> ('CO87','Carol','Keogh','6 Achray St,Glasgow G32 9DX',0141-357-7419),
-> ('CO40','Tina','Farrel','67 Well St,Glasgow G42',0141-943-1728),
-> ('CO93','Tony','Shaw','12 Park Pl,Glasgow G4 0QR',0141-225-7025);

mysql> select * from PrivateOwner;
+-----+-----+-----+-----+-----+
| ownerNo | First_Name | Last_Name | address | telNo |
+-----+-----+-----+-----+-----+
| CO40    | Tina       | Farrel    | 67 Well St,Glasgow G42 | -2530 |
| CO46    | Joe        | Albatross | 2 Fergus Dr,Aberdeen AB2 7SX | -859988 |
| CO87    | Carol      | Keogh     | 6 Achray St,Glasgow G32 9DX | -7635 |
| CO93    | Tony       | Shaw      | 12 Park Pl,Glasgow G4 0QR | -7109 |
+-----+-----+-----+-----+-----+
-----

mysql> create table Registration
-> (
->   clientNo char(10),
->   branchNo char(10),
->   staffNo char(10),
->   dateJoined date,
->   PRIMARY KEY(clientNo)
-> );

mysql> insert into Registration(clientNo,branchNo,staffNo,dateJoined) values
-> ('CR76','B005','SL41','2004-01-02'),
-> ('CR56','B003','SG37','2003-04-11'),
-> ('CR74','B003','SG37','2002-11-16'),
-> ('CR51','B007','SA9','2003-03-07');

```

```
mysql> select * from Registration;
```

clientNo	branchNo	staffNo	dateJoined
CR51	B007	SA9	2003-03-07
CR56	B003	SG37	2003-04-11
CR74	B003	SG37	2002-11-16
CR76	B005	SL41	2004-01-02

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=====
QUERIES TO BE EXECUTED:
```

```
1.mysql> select * from Staff where salary > 10000;
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staffNo	First_Name	Last_Name	position	sex	DOB	salary	branchNo
SG14	David	Brews	Supervisor	M	1958-03-24	18000	B003
SG37	Ann	Prelt	Assistant	F	1960-11-10	12000	B003
SG5	Susan	Wojciki	Manager	F	1940-06-03	24000	B003
SL21	John	Cena	Manager	M	1945-10-01	30000	B005

```
2.mysql> select staffNo, First_Name as FirstName, Last_Name as LastName, salary from Staff;
```

staffNo	FirstName	LastName	salary
SA9	Mary	Evin	9000
SG14	David	Brews	18000
SG37	Ann	Prelt	12000
SG5	Susan	Wojciki	24000
SL21	John	Cena	30000
SL41	Julie	Prince	9000

```
3.mysql> select city from Branch
-> where city is NOT NULL
-> UNION
-> select city from PropertyForRent
-> where city is NOT NULL;
```

city
Jaipur
Glasgow
Bristol
Islington
Scotland
Edinburgh
London
Bangkok
Italy
Brazil

```
4.mysql> select city from Branch;
```

city
Jaipur
Glasgow
Bristol
Islington
Scotland

```

5.mysql> select distinct B.city
-> from Branch B
-> INNER JOIN PropertyForRent P
-> on B.city=P.city;
+-----+
| city |
+-----+
| Glasgow |
+-----+

6.mysql> select C.clientNo, First_Name, Last_Name, propertyNo, comment
-> from Client C, Viewing V
-> where C.clientNo = V.clientNo;
+-----+-----+-----+-----+-----+
| clientNo | First_Name | Last_Name | comment | propertyNo |
+-----+-----+-----+-----+-----+
| CR51 | Mary | Tregear | no dining room | PY14 |
| CR56 | Aline | Steves | too small | PA14 |
| CR56 | Aline | Steves | | PG36 |
| CR56 | Aline | Steves | | PT4 |
| CR76 | John | Kims | too remote | PG4 |
+-----+-----+-----+-----+-----+

7.mysql> select * from Viewing;
+-----+-----+-----+-----+
| clientNo | propertyNo | viewdate | comment |
+-----+-----+-----+-----+
| CR56 | PA14 | 1904-03-24 | too small |
| CR56 | PG36 | 1904-04-28 | |
| CR76 | PG4 | 1904-04-20 | too remote |
| CR56 | PT4 | 1904-05-26 | |
| CR51 | PY14 | 1904-05-14 | no dining room |
+-----+-----+-----+-----+

8.mysql> select First_Name,Last_Name,address from PrivateOwner where address like '%
Glasgow%';
+-----+-----+-----+
| First_Name | Last_Name | address |
+-----+-----+-----+
| Tina | Farrel | 67 Well St,Glasgow G42 |
| Carol | Keogh | 6 Achray St,Glasgow G32 9DX |
| Tony | Shaw | 12 Park Pl,Glasgow G4 0QR |
+-----+-----+-----+

9.mysql> select count(*) as 'count' from PropertyForRent where rent > 350;
+-----+
| count |
+-----+
| 6 |
+-----+

10.mysql> select max(salary) from Staff;
+-----+
| max(salary) |
+-----+
| 30000 |
+-----+

mysql> select min(salary) from Staff;
+-----+
| min(salary) |
+-----+
| 9000 |
+-----+

mysql> select avg(salary) from Staff;
+-----+
| avg(salary) |
+-----+
| 17000.0000 |
+-----+

```

```

+-----+
11.mysql> select branchNo,count(staffNo) as 'count',sum(salary) as 'sum'
-> from Staff
-> group by branchNo
-> order by branchNo;
+-----+
| branchNo | count | sum |
+-----+
| B003     | 3     | 54000 |
| B005     | 2     | 39000 |
| B007     | 1     | 9000  |
+-----+

12.mysql> select First_Name,Last_Name,position='Manager',salary>=25000 from Staff;
+-----+
| First_Name | Last_Name | position='Manager' | salary>=25000 |
+-----+
| Mary       | Evin      | 0                  | 0             |
| David      | Brews     | 0                  | 0             |
| Ann        | Prelu     | 0                  | 0             |
| Susan      | Wojciki   | 1                  | 0             |
| John       | Cena      | 1                  | 1             |
| Julie      | Prince    | 0                  | 0             |
+-----+

--
13.mysql> select propertyNo,street,city from PropertyForRent where city like '%Glasgow%';
+-----+
| propertyNo | street      | city |
+-----+
| PG4        | 6 Lawrence St | Glasgow |
+-----+

---
14.mysql> select First_Name,Last_Name,position!='Manager' from Staff;
+-----+
| First_Name | Last_Name | position!='Manager' |
+-----+
| Mary       | Evin      | 1                  |
| David      | Brews     | 1                  |
| Ann        | Prelu     | 1                  |
| Susan      | Wojciki   | 0                  |
| John       | Cena      | 0                  |
| Julie      | Prince    | 1                  |
+-----+

15.mysql> select C.First_Name as Fname,C.Last_Name as Lname,P.rent,P.city
-> from Client C,PropertyForRent P
-> where city='Glasgow';
+-----+
| Fname | Lname | rent | city |
+-----+
| Mary  | Tregear | 657 | Glasgow |
| Aline | Steves | 657 | Glasgow |
| Mike  | Weel   | 657 | Glasgow |
| John  | Kims   | 657 | Glasgow |
+-----+

16.mysql> select distinct propertyNo from Viewing;
+-----+
| propertyNo |
+-----+
| PY14       |
| PA14       |
| PG36       |
| PT4        |
| PG4        |
+-----+

17.mysql> select * from Branch where city='London' or city='Glasgow';
+-----+
| branchNo | street      | city | postcode |
+-----+

```

```

+-----+-----+-----+-----+
| B003   | 163 Main Rd | Glasgow | G11 9QX |
+-----+-----+-----+-----+

18.mysql> select * from Staff where salary>=20000 and salary<=30000;
+-----+-----+-----+-----+-----+-----+-----+-----+
| staffNo | First_Name | Last_Name | position | sex | DOB       | salary | branchNo |
+-----+-----+-----+-----+-----+-----+-----+-----+
| SG5     | Susan      | Wojciki   | Manager  | F   | 1940-06-03 | 24000  | B003     |
| SL21    | John       | Cena      | Manager  | M   | 1945-10-01 | 30000  | B005     |
+-----+-----+-----+-----+-----+-----+-----+-----+

-
19.mysql> select staffNo,First_Name,Last_Name,position
-> from Staff
-> where position in ('Manager','Supervisor');
+-----+-----+-----+-----+
| staffNo | First_Name | Last_Name | position |
+-----+-----+-----+-----+
| SG14    | David      | Brews     | Supervisor |
| SG5     | Susan      | Wojciki   | Manager    |
| SL21    | John       | Cena      | Manager    |
+-----+-----+-----+-----+

-----
20.mysql> select ownerNo,First_Name,Last_Name,address from PrivateOwner where address like
'%Glasgow%';
+-----+-----+-----+-----+
| ownerNo | First_Name | Last_Name | address |
+-----+-----+-----+-----+
| CO40    | Tina       | Farrel    | 67 Well St,Glasgow G42 |
| CO87    | Carol      | Keogh     | 6 Achray St,Glasgow G32 9DX |
| CO93    | Tony       | Shaw      | 12 Park Pl,Glasgow G4 0QR |
+-----+-----+-----+-----+

-----
21.mysql> select * from Viewing where propertyNo='PG4';
+-----+-----+-----+-----+
| clientNo | propertyNo | viewdate  | comment |
+-----+-----+-----+-----+
| CR76     | PG4        | 1904-04-20 | too remote |
+-----+-----+-----+-----+

-----
22.mysql> select viewdate from Viewing where viewdate in (2004,05);
Empty set, 5 warnings (0.08 sec)

mysql> select viewdate from Viewing where viewdate in (1904,05);
+-----+
| viewdate |
+-----+
| 1904-03-24 |
| 1904-04-28 |
| 1904-04-20 |
| 1904-05-26 |
| 1904-05-14 |
+-----+

-----
23.mysql> select count(staffNo) as 'count',sum(salary) as 'sum'
-> from Staff where position='Manager';
+-----+-----+
| count | sum |
+-----+-----+
| 2     | 54000 |
+-----+-----+

-----
24.mysql> select branchNo,count(staffNo) as 'count',sum(salary) as 'sum'
-> from Staff group by branchNo
-> having count(staffNo)>1 order by branchNo;
+-----+-----+-----+
| branchNo | count | sum |
+-----+-----+-----+
| B003     | 3     | 54000 |
| B005     | 2     | 39000 |
+-----+-----+-----+

```

```

+-----+-----+-----+
25.mysql> select staffNo,First_Name,Last_Name,branchNo
->   from Staff where branchNo = (select branchNo from Branch
->   where street like '%163 Main Rd%');
+-----+-----+-----+
| staffNo | First_Name | Last_Name | branchNo |
+-----+-----+-----+
| SG14    | David      | Brews     | B003     |
| SG37    | Ann        | Pelt      | B003     |
| SG5     | Susan      | Wojciki   | B003     |
+-----+-----+-----+

26.mysql> select staffNo, First_Name, Last_Name, position,
->   (salary - (select avg(salary) from Staff)) as salDiff
-> from Staff
-> where salary > (select avg(salary) from Staff) ;
+-----+-----+-----+-----+-----+
| staffNo | First_Name | Last_Name | position | salDiff |
+-----+-----+-----+-----+-----+
| SG14    | David      | Brews     | Supervisor | 1000.0000 |
| SG5     | Susan      | Wojciki   | Manager    | 7000.0000 |
| SL21    | John       | Cena      | Manager    | 13000.0000 |
+-----+-----+-----+-----+-----+

27.mysql> select propertyNo,street,city,postcode,type,rooms,rent
->   from PropertyForRent
->   where staffNo in(select staffNo
->                     from Staff
->                     where branchNo = (select branchNo
->                                       from Branch
->                                       where street = '163 Main Rd'));
+-----+-----+-----+-----+-----+-----+
| propertyNo | street      | city      | postcode | type  | rooms | rent |
+-----+-----+-----+-----+-----+-----+
| PG16       | 5 Novar Rd  | London    | G12 9AX  | Flat  | 4      | 450 |
| PG21       | 18 Dale St  | Bangkok   | G12      | House | 7      | 375 |
| PG36       | 2 Manor St  | Italy     | G32 4QX  | Flat  | 3      | 523 |
| PL94       | 6 Argyll Rd | Brazil    | NW2      | Flat  | 4      | 400 |
+-----+-----+-----+-----+-----+-----+

28.mysql> select staffNo,First_Name,Last_Name,position,salary,branchNo
->   from Staff
->   where salary>ALL(select salary
->                     from Staff
->                     where branchNo='B003');
+-----+-----+-----+-----+-----+-----+
| staffNo | First_Name | Last_Name | position | salary | branchNo |
+-----+-----+-----+-----+-----+-----+
| SL21    | John       | Cena      | Manager  | 30000  | B005     |
+-----+-----+-----+-----+-----+-----+

29.mysql> select staffNo,First_Name,Last_Name,position,salary,branchNo
->   from Staff
->   where salary>SOME(select salary
->                      from Staff
->                      where branchNo='B003');
+-----+-----+-----+-----+-----+-----+
| staffNo | First_Name | Last_Name | position | salary | branchNo |
+-----+-----+-----+-----+-----+-----+
| SG14    | David      | Brews     | Supervisor | 18000  | B003     |
| SG5     | Susan      | Wojciki   | Manager    | 24000  | B003     |
| SL21    | John       | Cena      | Manager    | 30000  | B005     |
+-----+-----+-----+-----+-----+-----+

30.mysql> select B.branchNo,S.staffNo,First_Name,Last_Name,propertyNo
->   from Staff S,PropertyForRent P,Branch B
->   where B.branchNo = S.branchNo and S.staffNo = P.staffNo
->   order by B.branchNo,S.staffNo,propertyNo;
+-----+-----+-----+-----+-----+
| branchNo | staffNo | First_Name | Last_Name | propertyNo |
+-----+-----+-----+-----+-----+
| B003     | SG14    | David      | Brews     | PG16       |

```


B003	SG14	David	Brews	PL94	
B003	SG37	Ann	Prelt	PG21	
B003	SG37	Ann	Prelt	PG36	
B007	SA9	Mary	Evin	PA14	

```

31.mysql> select B.branchNo,B.city,S.staffNo,First_Name,Last_Name,propertyNo
->      from Staff S,PropertyForRent P,Branch B
->      where B.branchNo = S.branchNo and S.staffNo = P.staffNo
->      order by B.branchNo,S.staffNo,propertyNo;

```

branchNo	city	staffNo	First_Name	Last_Name	propertyNo
B003	Glasgow	SG14	David	Brews	PG16
B003	Glasgow	SG14	David	Brews	PL94
B003	Glasgow	SG37	Ann	Prelt	PG21
B003	Glasgow	SG37	Ann	Prelt	PG36
B007	Scotland	SA9	Mary	Evin	PA14

```

32.mysql> select S.staffNo,S.branchNo,count(*) as 'Count'
->      from Staff S,PropertyForRent P
->      where S.staffNo=P.staffNo
->      group by S.staffNo,S.branchNo
->      order by S.staffNo,S.branchNo;

```

staffNo	branchNo	Count
SA9	B007	1
SG14	B003	2
SG37	B003	2
