

Individual Project 1

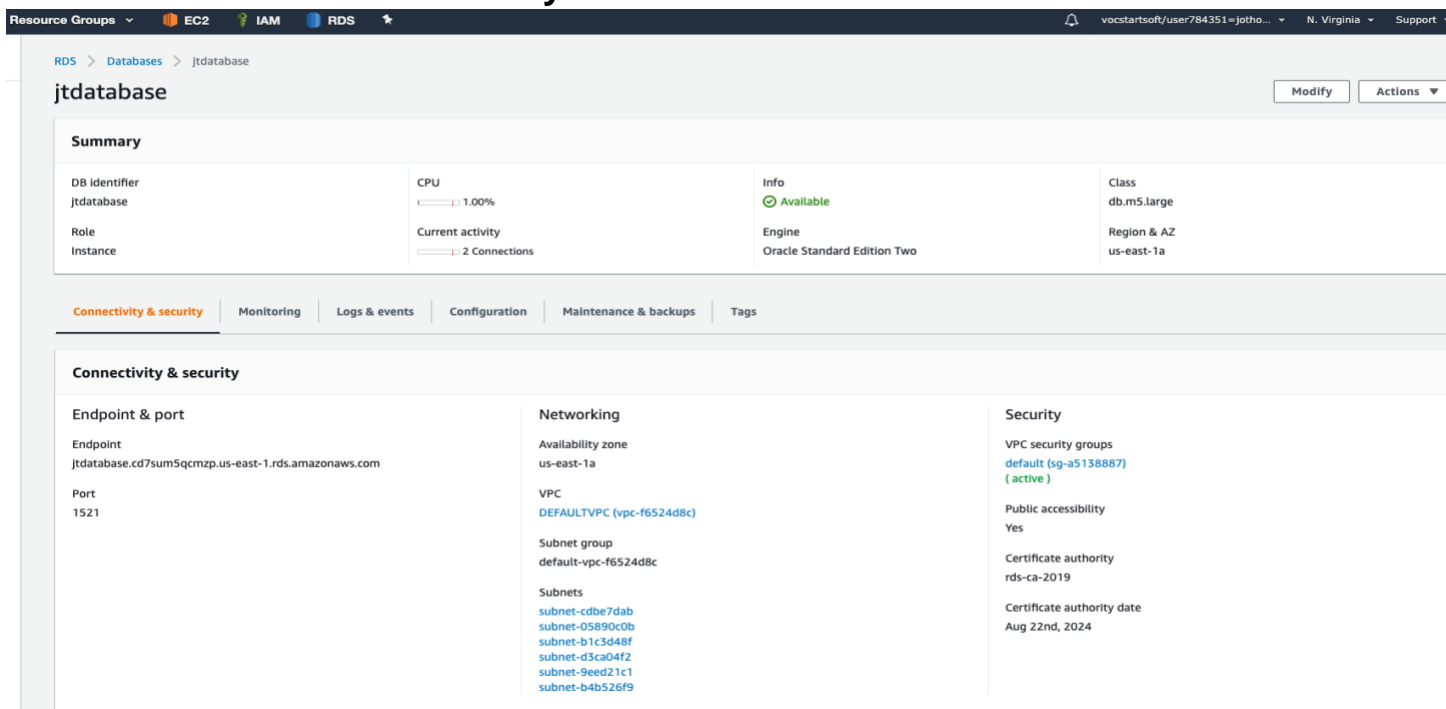
Last Name: Thompson

Fist Name: Jerome

You are provided with the Horse Racing Database Schema. Your task is to implement the database schema in a userid in your Oracle RDS database.

The final deliverable must be a college level report for each of the steps listed below and explained screen pictures included in the report.

1. Create an Oracle RDS in your AWS Educate account.



2. Create the name of the Oracle userid that will hold your database schema. The Oracle userid must be "Prj1_LastName_FirstName". Example "Prj1_FERNANDEZ_ROLANDO".

New / Select Database Connection

Name

Database Type

User Info Proxy User

Authentication Type

Username Role

Password ☒ Save Password

Connection Type

Details Advanced

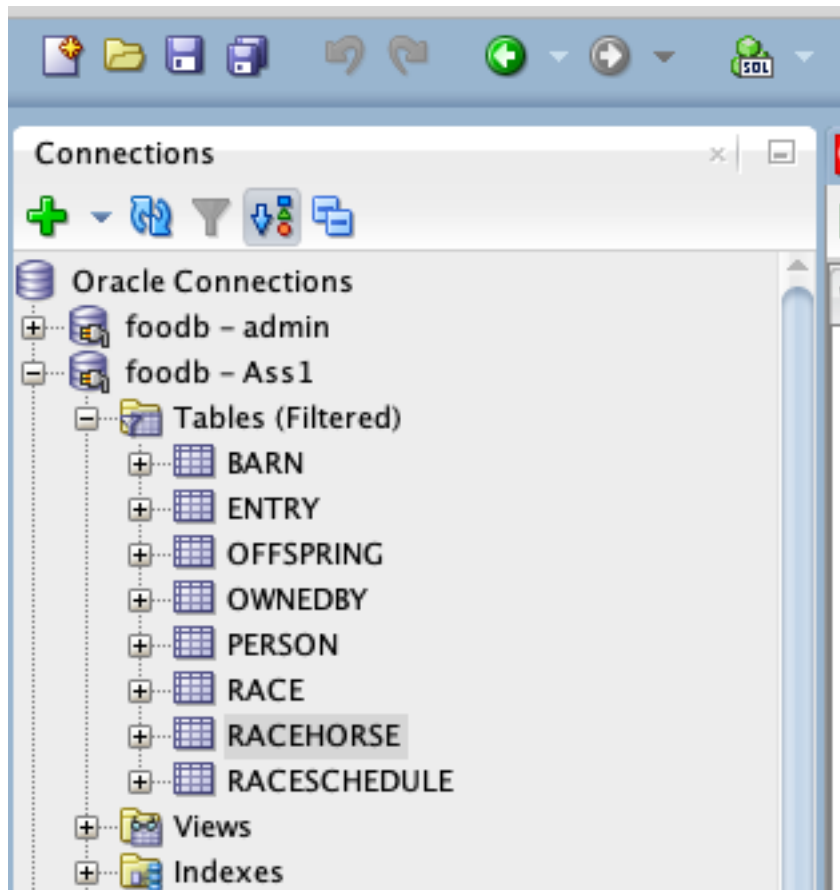
Hostname

Port

☒ SID

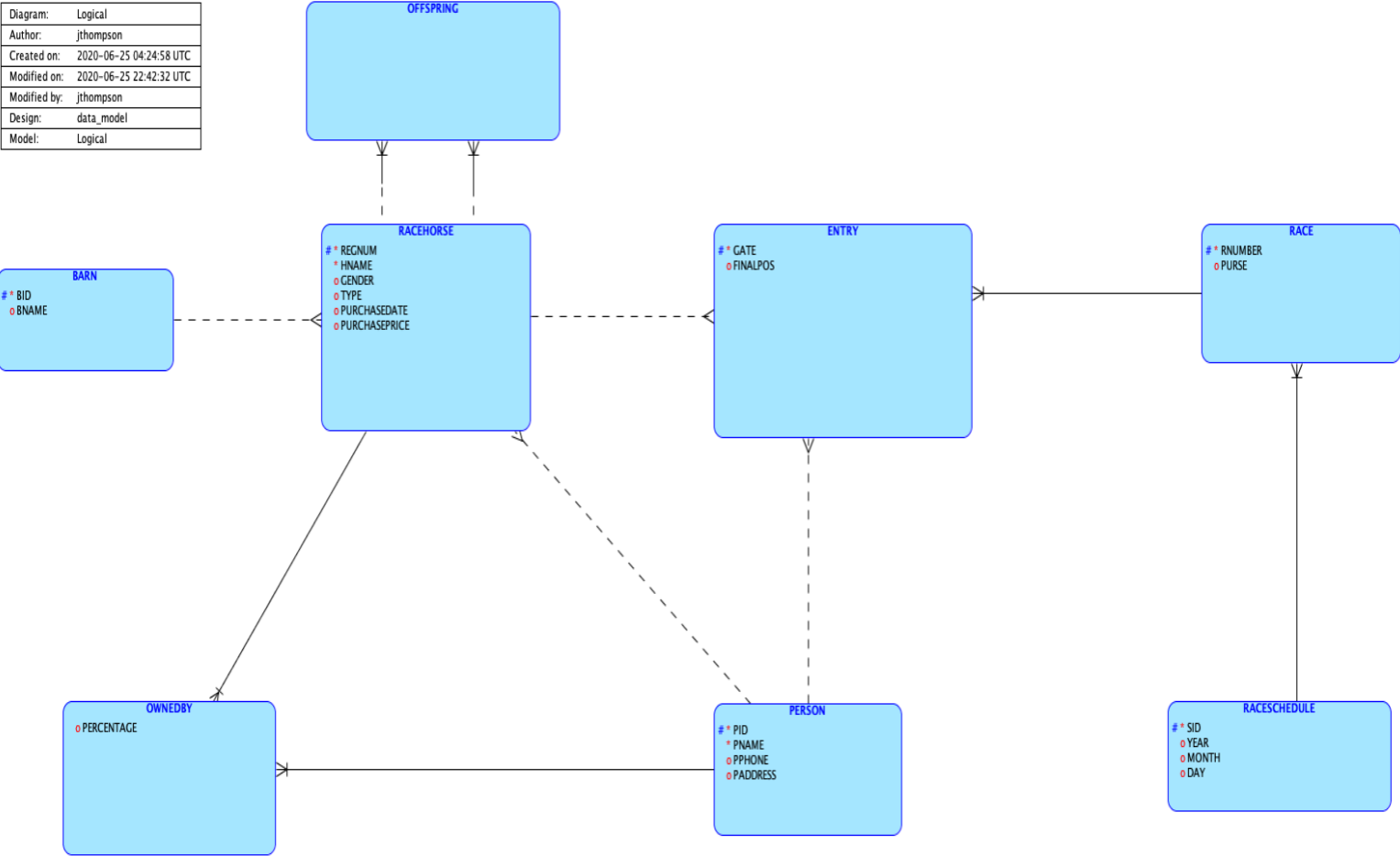
☐ Service name

3. Once the database schema is created, create the “Horse Racing” database schema in your userid created above using the Oracle SQL Developer.



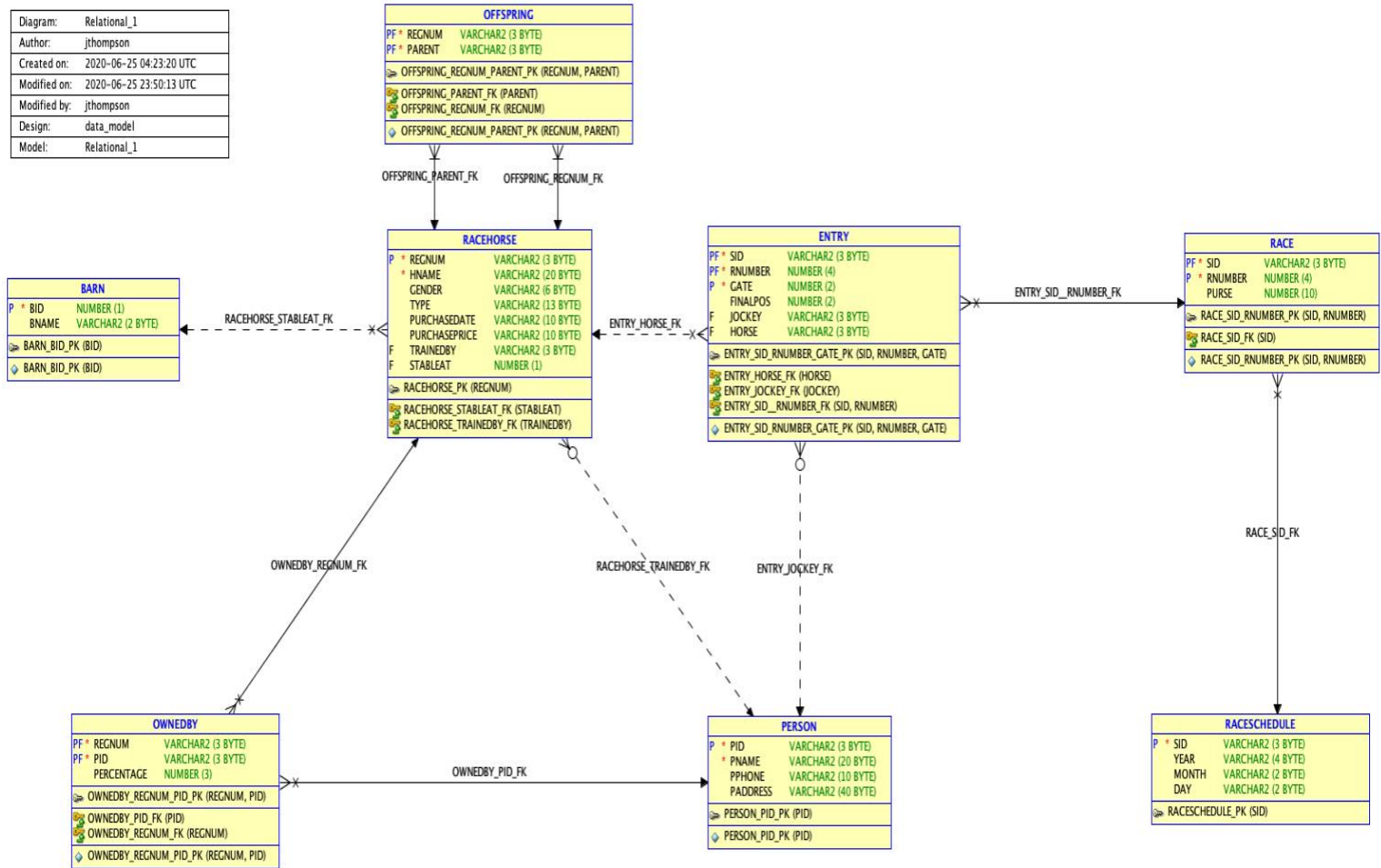
4. Reverse engineer the database schema using the Oracle SQL Data Modeler and produce the ER Diagram and the Relational Diagram.

Diagram:	Logical
Author:	jthompson
Created on:	2020-06-25 04:24:58 UTC
Modified on:	2020-06-25 22:42:32 UTC
Modified by:	jthompson
Design:	data_model
Model:	Logical



ER Diagram

Diagram:	Relational_1
Author:	jthompson
Created on:	2020-06-25 04:23:20 UTC
Modified on:	2020-06-25 23:50:13 UTC
Modified by:	jthompson
Design:	data_model
Model:	Relational_1



Relational Diagram

5. Build the solution to the queries listed at the end

5.a. The Horse Racing Database Schema

CREATE SCHEMA AUTHORIZATION HorseRacing

```

create table Barn (
  bld          NUMBER(1),
  bName        VARCHAR2(2),

```

```
CONSTRAINT Barn_bld_pk PRIMARY KEY (bld)
);
```

```
create table Person (
pId      VARCHAR2(3) ,
PName    VARCHAR2(20) NOT NULL,
pPhone   VARCHAR2(10),
pAddress VARCHAR2(40),
CONSTRAINT Person_pld_pk PRIMARY KEY (pld)
);
```

```
create table RaceHorse (
regNum    VARCHAR2(3) PRIMARY KEY,
hName     VARCHAR2(20) NOT NULL,
gender    VARCHAR2(6),
type      VARCHAR2(13),
purchaseDate VARCHAR2(10),
purchasePrice VARCHAR2(10),
trainedBy VARCHAR2(3),
stableAt   NUMBER(1),
CONSTRAINT RaceHorse_stableAt_fk FOREIGN KEY (stableAt)
REFERENCES Barn (bld) ON DELETE CASCADE,
CONSTRAINT RaceHorse_trainedBy_fk FOREIGN KEY (trainedBy)
REFERENCES Person (pld) ON DELETE SET NULL
);
```

```
create table Offspring (
```

```
regNum    VARCHAR2(3),
parent    VARCHAR2(3),
CONSTRAINT Offspring_regNum_parent_pk PRIMARY KEY (regNum,
parent),
CONSTRAINT Offspring_regNum_fk FOREIGN KEY (regNum)
REFERENCES RaceHorse (regNum) on DELETE SET NULL,
CONSTRAINT Offspring_parent_fk FOREIGN KEY (parent) REFERENCES
RaceHorse (regNum) on DELETE SET NULL
);
```

```
create table OwnedBy (
regNum    VARCHAR2(3),
pId       VARCHAR2(3),
percentage NUMBER(3),
CONSTRAINT OwnedBy_regNum_pId_pk PRIMARY KEY (regNum, pId),
CONSTRAINT OwnedBy_regNum_fk FOREIGN KEY (regNum)
REFERENCES RaceHorse (regNum) on DELETE CASCADE,
CONSTRAINT OwnedBy_pId_fk FOREIGN KEY (pId) REFERENCES
Person (pId) on DELETE CASCADE
);
```

```
create table RaceSchedule(
sId       VARCHAR2(3) PRIMARY KEY,
year      VARCHAR2(4),
month     VARCHAR2(2),
day       VARCHAR2(2)
);
```

```

create table Race(
sld      VARCHAR2(3),
rNumber  NUMBER(4),
purse    NUMBER(10),
CONSTRAINT Race_sld_rNumber_pk PRIMARY KEY (sld, rNumber),
CONSTRAINT Race_sld_fk FOREIGN KEY (sld) REFERENCES
RaceSchedule (sld) on DELETE CASCADE
);

```

```

create table Entry (
sld      VARCHAR2(3),
rNumber  NUMBER(4),
gate     NUMBER(2),
finalPos NUMBER(2),
jockey   VARCHAR2(3),
horse    VARCHAR2(3),
CONSTRAINT Entry_sld_rNumber_gate_pk PRIMARY KEY (sld,
rNumber, gate),
CONSTRAINT Entry_sld__rNumber_fk FOREIGN KEY (sld, rNumber)
REFERENCES Race (sld, rNumber) on DELETE CASCADE,
CONSTRAINT Entry_jockey_fk FOREIGN KEY (jockey) REFERENCES
Person (pId) on DELETE SET NULL,
CONSTRAINT Entry_horse_fk FOREIGN KEY (horse) REFERENCES
RaceHorse (regNum) on DELETE CASCADE
);

```

5.b. Using the Oracle SQL Developer, load Data for Horse Racing Schema

insert into Barn values (1, 'B1');

insert into Barn values (2, 'B2');

insert into Barn values (3, 'B3');

insert into Person values ('p01', 'Bob Jones', '8069927001', '401 Oak Street, Lubbock, TX 11122');

insert into Person values ('p02', 'Sally Smith', '8069927002', '200 Pine Street, Abilene, TX 22211');

insert into Person values ('p03', 'Rick Robins', '8069927003', '301 Elm Street, Amarillo, TX 33321');

insert into Person values ('p04', 'Jack Anders', '8069927004', '100 5th Street, Guthrie, TX 55533');

insert into Person values ('p05', 'Sue Stegen', '8069927005', '506 Cedar Street, Bastrop, TX 77789');

insert into Person values ('p06', 'Joe Koblinski', '8069927006', '600 6th Street, Austin, TX 99988');

insert into Person values ('p07', 'Mary Cane', '8069927007', '722 1st Street, Houston, TX 12345');

insert into RaceHorse values ('r01', 'Lucky', 'male', 'thoroughbred', '02/02/2015', 30000, 'p01', 1);

insert into RaceHorse values ('r02', 'Fast', 'female', 'thoroughbred', '02/01/2015', 20000, 'p02', 2);

insert into RaceHorse values ('r03', 'UnLucky', 'male', 'quarter horse', '02/07/2015', 25000, 'p02', 3);

insert into RaceHorse values ('r04', 'Slow', 'female', 'quarter horse', '02/08/2015', 40000, 'p01', 1);

insert into RaceHorse values ('r05', 'Legend', 'male', 'thoroughbred', '02/04/2015', 15000, 'p07', 3);

insert into RaceHorse values ('r12', 'Lufast', 'female', 'thoroughbred',
'02/09/2015', 50000, 'p07', 2);

insert into RaceHorse values ('r34', 'Unslow', 'male', 'quarter horse',
'02/10/2015', 30000, 'p01', 2);

insert into Offspring values ('r12', 'r01');

insert into Offspring values ('r12', 'r02');

insert into Offspring values ('r34', 'r03');

insert into Offspring values ('r34', 'r04');

insert into OwnedBy values ('r01', 'p01', 1.0);

insert into OwnedBy values ('r02', 'p02', 0.50);

insert into OwnedBy values ('r02', 'p03', 0.50);

insert into OwnedBy values ('r03', 'p03', 1.0);

insert into OwnedBy values ('r04', 'p04', 0.75);

insert into OwnedBy values ('r04', 'p05', 0.25);

insert into OwnedBy values ('r05', 'p05', 1.0);

insert into OwnedBy values ('r12', 'p06', 1.0);

insert into OwnedBy values ('r34', 'p07', 1.0);

insert into RaceSchedule values ('s01', '2015', '07', '01');

insert into RaceSchedule values ('s02', '2015', '08', '01');

insert into Race values ('s01', 1,25000);

insert into Race values ('s01', 2,20000);

```
insert into Race values ('s02', 1,30000);
```

```
insert into Race values ('s02', 2,15000);
```

```
insert into Entry values ('s01', 1, 1, 4, 'p01', 'r01');
```

```
insert into Entry values ('s01', 1, 2, 3, 'p02', 'r02');
```

```
insert into Entry values ('s01', 1, 3, 2, 'p03', 'r03');
```

```
insert into Entry values ('s01', 1, 4, 1, 'p04', 'r04');
```

```
insert into Entry values ('s01', 2, 1, 3, 'p05', 'r05');
```

```
insert into Entry values ('s01', 2, 2, 2, 'p06', 'r12');
```

```
insert into Entry values ('s01', 2, 3, 1, 'p07', 'r34');
```

```
insert into Entry values ('s02', 1, 1, 1, 'p07', 'r01');
```

```
insert into Entry values ('s02', 1, 2, 4, 'p06', 'r12');
```

```
insert into Entry values ('s02', 1, 3, 3, 'p05', 'r34');
```

```
insert into Entry values ('s02', 1, 4, 2, 'p04', 'r04');
```

```
insert into Entry values ('s02', 2, 1, 1, 'p03', 'r05');
```

```
insert into Entry values ('s02', 2, 2, 2, 'p02', 'r02');
```

```
insert into Entry values ('s02', 2, 3, 3, 'p01', 'r03');
```

5.c. Using the Oracle SQL Developer, develop the following queries Horse Racing Schema

- (i) What are the name and telephone number of the person who trained Lucky?

```
-- 1.
```

```
SELECT p.pname, p.pphone  
FROM person p, racehorse r  
WHERE
```

```
p.pid = r.trainedby
AND r.hname = 'Lucky';
```

PNAME	PPHONE
Bob Jones	8069927001

(ii) What was Lucky's final position in a given race?

```
--2
```

```
SELECT e.finalpos
FROM entry e
WHERE
e.horse =
(
    SELECT regnum
    FROM racehorse
    WHERE hname = 'Lucky'
);
```

FINALPOS
4
1

(iii) What are the name and address of the jockey who rode the winning horse in a particular race?

```
--3
```

```
SELECT DISTINCT p.pname, p.paddress
FROM person p, entry e
```

WHERE e.finalpos = 1
AND p.pid = e.jockey;

PNAME	PADDRESS
Rick Robins	301 Elm Street, Amarillo, TX 33321
Jack Anders	100 5th Street, Guthrie, TX 55533
Mary Cane	722 1st Street, Houston, TX 12345