Companie Ride-Sharing

Zoomer este o companie de ride-sharing care activeaza exclusiv in orasul Cluj-Napoca.

Principiul de functionare al acesteia este simplu. Prin intermediul unei aplicatii mobile, un client este asociat unui driver din apropiere pentru a fi transportat din punctul A in punctul B.

Aplicatia dispune de un algoritm care proceseaza datele cu privire la distanta calatoriei, durata calatoriei, cerere si oferta, precum si durata zilei.
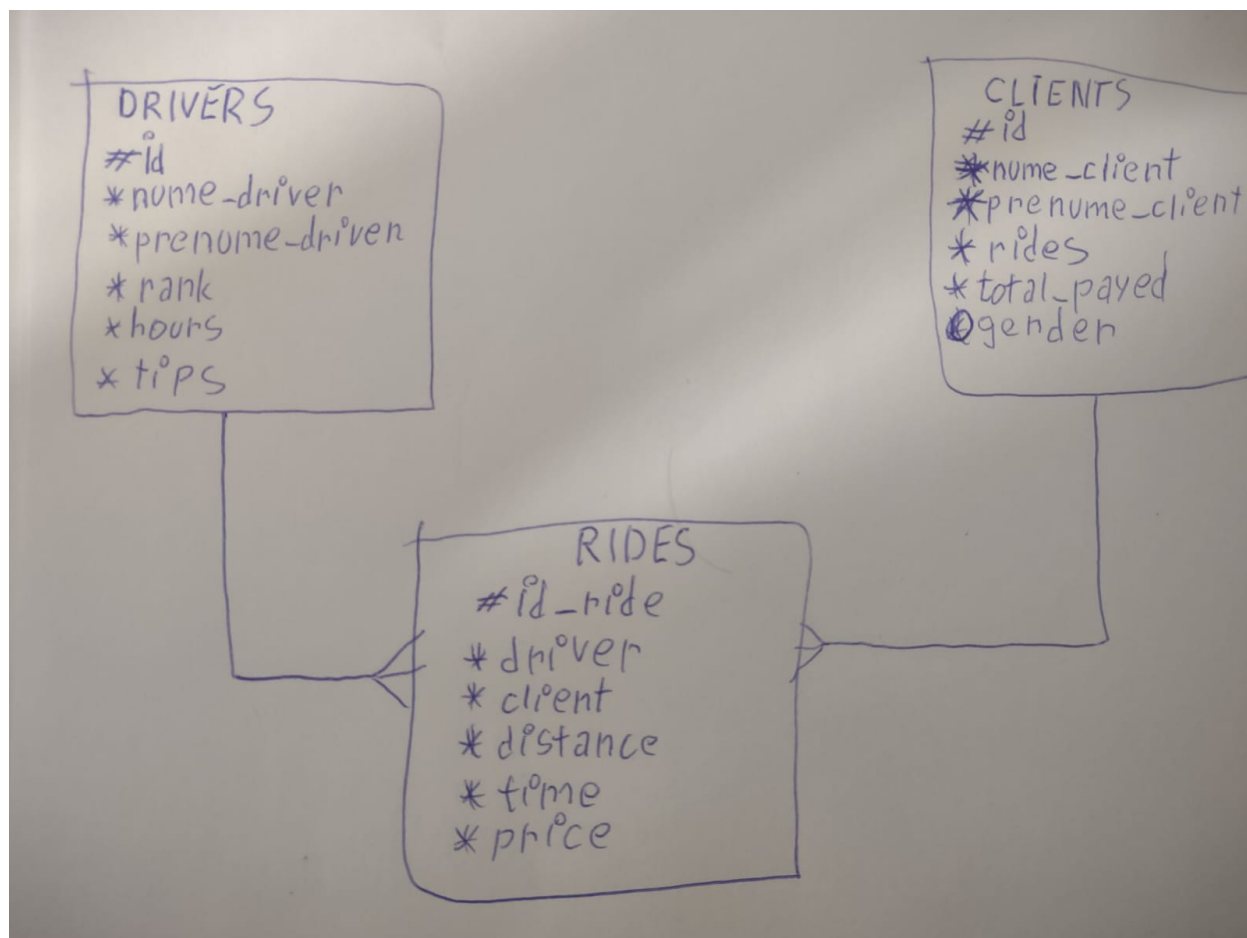
Tinand cont de aceste date de intrare, algoritmul genereaza elemente de output precum venitul unui driver.

Totodata, in functie de anumiti parametrii precum performanta, fidelitate, recenzii, algoritmul atribuie fiecarui driver un rank care influenteaza rata de venit a acestuia.

Formula de calcul a venitului unui driver este urmatoarea *(plata_ora * (1+rank*0.1)) + venit_curse + tips*

Pentru a tine evidenta tuturor acestor date, compania foloseste o baza de date.

Diagrama ERD

DRIVERS
- #id
- *nume_driver
- *prenume_driven
- *rank
- *hours
- *tips

CLIENTS
- #id
- *nume_client
- *prenume_client
- *rides
- *total_payed
- o gender

RIDES
- #id_ride
- *driver
- *client
- *distance
- *time
- *price

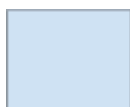# - cheie primara

* - element mandatoriu

o - element optional

ABCDEFG - nume tabela

abcdefg - nume coloana

- relatie de tip "one to many"

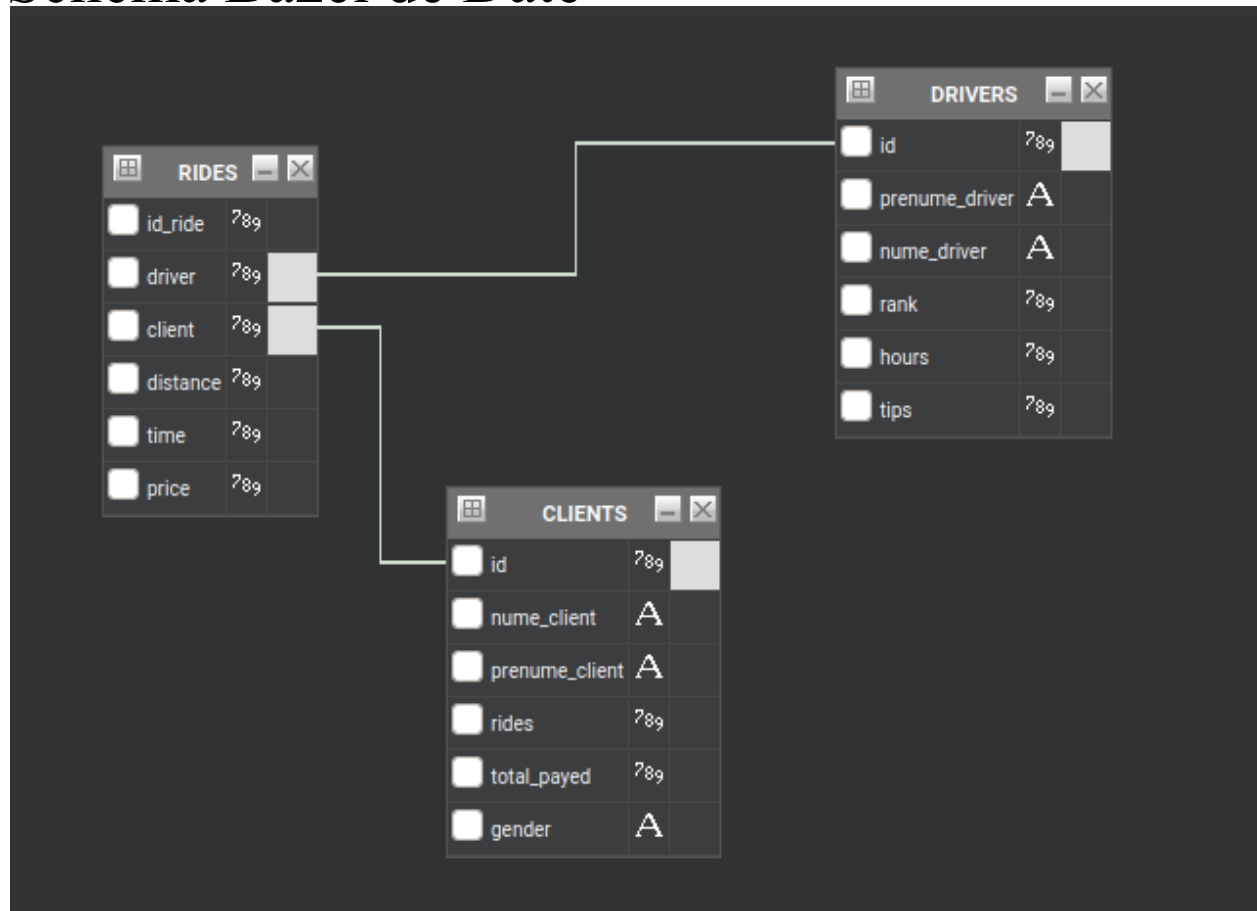- tabel

Schema Bazei de Date

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
DRIVERS	id	NUMBER	22	-	0	1	-	-	-
	prenume_driver	VARCHAR2	50	-	-	-	-	-	-
	nume_driver	VARCHAR2	50	-	-	-	-	-	-
	rank	NUMBER	22	-	0	-	-	-	-
	hours	NUMBER	22	-	0	-	-	-	-
	tips	NUMBER	22	-	0	-	-	-	-

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CLIENTS	id	NUMBER	22	-	0	1	-	-	-
	nume_client	VARCHAR2	50	-	-	-	-	-	-
	prenume_client	VARCHAR2	50	-	-	-	-	-	-
	rides	NUMBER	22	-	0	-	-	-	-
	total_payed	NUMBER	22	-	0	-	-	-	-
	gender	VARCHAR2	1	-	-	-	-	-	-

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
RIDES	id_ride	NUMBER	22	-	0	1	-	-	-
	driver	NUMBER	22	-	0	-	-	-	-
	client	NUMBER	22	-	0	-	-	-	-
	distance	NUMBER	22	-	0	-	-	-	-
	time	NUMBER	22	-	0	-	-	-	-
	price	NUMBER	22	-	0	-	-	-	-

Tabele de mapare

DRIVERS			
Coloana	Tip data	Cheie	Mandatory/Optional
id	INTEGER	PK	M
nume_driver	VARCHAR2(50)		M
prenume_driver	VARCHAR2(50)		M
rank	INTEGER		M
hours	INTEGER		M
tips	INTEGER		M
car	INTEGER		M

CLIENTS			
Coloana	Tip data	Cheie	Mandatory/Optional
id	INTEGER	PK	M
nume_client	VARCHAR2(50)		M
prenume_client	VARCHAR2(50)		M
rides	INTEGER		M
total_payed	INTEGER		M
gender	VARCHAR(1)		O

RIDES			
Coloana	Tip data	Cheie	Mandatory/Optional
id_ride	INTEGER	PK	M
driver	INTEGER	FK	M
client	INTEGER	FK	M
distance	INTEGER		M
time	INTEGER		M
price	VARCHAR(1)		M

Script SQL

drop table CLIENTS;

drop table DRIVERS;

drop table RIDES;

CREATE TABLE "DRIVERS"

  ("id" INTEGER NOT NULL ENABLE,

      "prenume_driver" VARCHAR2(50) NOT NULL ENABLE,

      "nume_driver" VARCHAR2(50) NOT NULL ENABLE,

      "rank" INTEGER NOT NULL ENABLE,

      "hours" INTEGER NOT NULL ENABLE,

      "tips" INTEGER NOT NULL ENABLE,

      "car" VARCHAR2(50) NOT NULL ENABLE,

      CONSTRAINT "DRIVERS_PK" PRIMARY KEY ("id")

  USING INDEX ENABLE

)

/

INSERT INTO DRIVERS VALUES (1,'Varga','Janos',2,20,110,'?');

```sql
INSERT INTO DRIVERS VALUES (2,'Pop','Laurentiu',1,15,44,'?');

INSERT INTO DRIVERS VALUES (3,'Rus','Emil',1,11,50,'?');

INSERT INTO DRIVERS VALUES (4,'Ferenc','Daniel',2,20,55,'?');

INSERT INTO DRIVERS VALUES (5,'Balogh','Norbert',5,40,240,'?');

INSERT INTO DRIVERS VALUES (6,'Paunescu','Adrian',4,36,210,'?');

INSERT INTO DRIVERS VALUES (7,'Baciu','Raul',2,1,1,'?');

/

CREATE TABLE  "CLIENTS"

  (

        "id" INTEGER  NOT NULL ENABLE,

        "nume_client" VARCHAR2(50) NOT NULL ENABLE,

        "prenume_client" VARCHAR2(50) NOT NULL ENABLE,

        "rides" INTEGER  NOT NULL ENABLE,

        "total_payed" INTEGER  NOT NULL ENABLE,

        "gender" VARCHAR(1),

        CONSTRAINT "CLIENTS_PK" PRIMARY KEY ("id")

  USING INDEX  ENABLE

  )

/

INSERT INTO CLIENTS VALUES (1,'Pestritu','Adelina',5,120,'F');

INSERT INTO CLIENTS VALUES (2,'Pruna','Cristina',5,200,'F');

INSERT INTO CLIENTS VALUES (3,'Timisorean','Sebastian',5,120,'M');

INSERT INTO CLIENTS VALUES (4,'Poenar','David',2,44,'M');

INSERT INTO CLIENTS VALUES (5,'Fekete','Tibor',11,280,'M');

INSERT INTO CLIENTS VALUES (6,'Bucur','Andrei',1,15,'M');

/

CREATE TABLE  "RIDES"

  (

        "id_ride" INTEGER  NOT NULL ENABLE,

        "driver" INTEGER  NOT NULL ENABLE,

        "client" INTEGER  NOT NULL ENABLE,
```

```sql
        "distance" INTEGER  NOT NULL ENABLE,

        "time" INTEGER  NOT NULL ENABLE,

        "price" INTEGER  NOT NULL ENABLE,


        CONSTRAINT "RIDES_PK" PRIMARY KEY ("id_ride")

  USING INDEX  ENABLE

   )

/

ALTER TABLE  "RIDES" ADD CONSTRAINT "DRIVER_FK" FOREIGN KEY ("driver")

        REFERENCES  "DRIVERS" ("id") ENABLE

/

ALTER TABLE  "RIDES" ADD CONSTRAINT "CLIENT_FK" FOREIGN KEY ("client")

        REFERENCES  "CLIENTS" ("id") ENABLE

/


INSERT INTO RIDES VALUES (1125,2,3,15,20,38);

INSERT INTO RIDES VALUES (1147,4,4,10,10,25);

INSERT INTO RIDES VALUES (1212,4,2,5,7,21);

INSERT INTO RIDES VALUES (1215,6,3,2,4,10);

INSERT INTO RIDES VALUES (1268,1,5,2,7,12);

INSERT INTO RIDES VALUES (1299,3,6,4,5,15);


ALTER TABLE "CLIENTS" MODIFY "gender" NOT NULL;


ALTER TABLE "DRIVERS" DROP COLUMN "car";


ALTER TABLE "DRIVERS" ADD CONSTRAINT nivel_rank CHECK("rank" BETWEEN 0 AND 6);


UPDATE "RIDES" SET "price" = 11 WHERE "id_ride" = 1268;


DELETE FROM "DRIVERS" WHERE "id" =  7;
```

```
select "nume_driver", "prenume_driver"

from DRIVERS

where "tips">50 and "rank"<4
```

```
select "id"

from DRIVERS

where "hours">39 and "rank">4
```

```
select "hours", "tips"

from DRIVERS

where "rank"=5
```

```
select "id"

from DRIVERS

where "hours">20 and "rank"<3
```

```
select "rank"

from DRIVERS

where "hours">20 or "tips">100
```

```sql
select "id"

from CLIENTS

where "rides">2 or "total_payed">100


select "nume_client", "prenume_client"

from CLIENTS

where "total_payed">200


select "nume_client", "prenume_client", "total_payed"

from CLIENTS

where "rides"<5


select "nume_client", "prenume_client"

from CLIENTS

where "gender"='F' and "rides">2


select "gender"

from CLIENTS

where "total_payed">50 and "rides"<5
```

```sql
select "driver", "client"

from RIDES

where "distance">10
```

```sql
select "id_ride"

from RIDES

where "distance"<10 and "price">19
```

```sql
select "id_ride", "client"

from RIDES

where "driver" = 3
```

```sql
select  "client"

from RIDES

where "price" = 20 or "time" = 20
```

```sql
select  "client"

from RIDES

where "price" = 20 or "time" = 20
```

```sql
select  "time"

from RIDES

where "rider" = 1 or "rider" = 3



create view CURSE as

select RIDES."id_ride" as "id_ride",

        DRIVERS."id" as "sofer",

        CLIENTS."id" as "nume client"

 from CLIENTS CLIENTS,

        DRIVERS DRIVERS,

        RIDES RIDES

 where RIDES."driver"=DRIVERS."id"

        and RIDES."client"=CLIENTS."id"



create view CURSE_DRIVER_4 as

select RIDES."id_ride" as "id_ride",

        CLIENTS."nume_client" as "nume client"

 from CLIENTS CLIENTS,

        RIDES RIDES

 where RIDES."driver"=4
```

```sql
        and RIDES."client"=CLIENTS."id"


create view CURSE_CLIENT_3 as

select RIDES."id_ride" as "id_ride",

        DRIVERS."nume_driver" as "nume sofer"

 from DRIVERS DRIVERS,

        RIDES RIDES

 where RIDES."client"=4

        and RIDES."driver"=DRIVERS."id"
```