```sql
create database ethazi4
collate utf8mb4_spanish_ci;

use ethazi4;

create table Local
(NIF char(9) primary key,
Nombre varchar(20) not null,
Tipo enum('Bar', 'Restaurante', 'Cafetería'),
Propietario varchar(20) not null,
Direccion varchar(30)
);

create table Usuario
(DNI char(9) primary key,
Nombre varchar(20) not null,
Apellido varchar(40) not null,
Contrasenya blob not null,
NIF char(9) not null,
constraint fk_NIF_Usuario foreign key (NIF) references Local (NIF) on update cascade on
delete cascade
);

create table Fabricante
(Nombre varchar(20) primary key,
Tiempo int not null
);

create table Producto
(Nombre varchar(50) primary key ,
Fec_Cad date not null,
Tipo enum('Bebida', 'Comida', 'Plato'),
Precio_Venta float not null,
Precio_Compra float not null,
N_Fabricante varchar(20) not null,
constraint fk_N_Fabricante_Producto foreign key (N_Fabricante) references
Fabricante(Nombre) on update cascade on delete cascade
);


create table Operaciones
(NumTrans int primary key,
Total_Operaciones float,
NIF char(9),
TipoOperacion set ('F','P','T','A','C'),
constraint fk_NIF_Operaciones  foreign key (NIF) references Local (NIF)
);
```

```sql
create table Pedidos
(NumTrans int primary key,
Domicilio varchar(20),
constraint fk_NumTrans_Pedidos foreign key (NumTrans) references Operaciones
(NumTrans) on update cascade on delete cascade
);

create table NIFFactura
(NIF char(9) primary key,
Nom_Des varchar(20) not null,
Apellidos_Des varchar(30) not null
);

create table Factura
(NumTrans int primary key,
NIF char(9) not null,
constraint fk_NumTrans_Factura foreign key (NumTrans) references Operaciones
(NumTrans) on update cascade on delete cascade,
constraint fk_NIF_Factura foreign key (NIF) references NIFFactura (NIF) on update cascade
on delete cascade
);

create table Tiene
(NomProducto varchar(50),
NumTrans int not null,
N_Unidades int not null,
Precio float not null,
TipoOperacion set ('F','P','T','A','C'),
constraint fk_NomProducto_Tiene foreign key(NomProducto) references Producto (Nombre)
on update cascade on delete cascade,
constraint fk_NumTrans_Tiene foreign key(NumTrans) references Operaciones(NumTrans)
on update cascade on delete cascade,
constraint pk_Tiene primary key(NomProducto,NumTrans)
);

create table Vende
(NomProducto varchar(50),
Stock float not null,
NIFLocal char(9),
constraint fk_NomProducto_Vende foreign key (NomProducto) references Producto
(Nombre) on update cascade on delete cascade,
constraint fk_NIFLocal_Vende foreign key (NIFLocal) references Local (NIF) on update
cascade on delete cascade,
constraint pk_Vende primary key(NomProducto,NIFLocal)
);


create table Aprovisionamiento
```

```sql
(
NumTrans int primary key,
Nom_Fabricante char(30) not null,
constraint fk_NumTrans_Aprovisionamiento foreign key (NumTrans) references
Operaciones(NumTrans) on update cascade on delete cascade,
constraint fk_Nom_Fabricante_Aprovisionamiento foreign key (Nom_Fabricante) references
Fabricante (Nombre) on delete cascade on update cascade
);

create table Comanda
(
NumTrans int primary key,
constraint fk_NumTrans_Comanda foreign key (NumTrans) references Operaciones
(NumTrans) on update cascade on delete cascade
);

create table Plato
(
Cod_Plato char(10) primary key,
TipoDePlato enum ('Normal','Vegetariano','Vegano'),
Nombre varchar(50) not null,
TipoPosicion enum ('Primero', 'Segundo', 'Postre'),
Precio float not null
);

create table Incluye
(
Num_Trans int not null,
Cod_Plato char(10) not null,
Num_Platos int not null,
PrecioActual float not null,
constraint fk_NumTrans_Incluye foreign key (Num_Trans) references Comanda (NumTrans)
on update cascade on delete cascade,
constraint fk_Cod_Plato_Incluye foreign key (Cod_Plato) references Plato (Cod_Plato) on
update cascade on delete cascade,
constraint pk_Incluye primary key (Num_Trans,Cod_Plato)
);

create table Ofrece
(NIFLocal char(9),
Cod_Plato char(10),
constraint fk_NIF_Ofrece foreign key (NIFLocal) references Local (NIF) on update cascade
on delete cascade,
constraint fk_Cod_Plato_Ofrece foreign key (Cod_Plato) references Plato (Cod_Plato) on
update cascade on delete cascade,
constraint pk_Ofrece primary key (NIFLocal, Cod_Plato)
);
```

```sql
create table Ingrediente
(
Nombre varchar(50) primary key,
HechoCon set ('Gluten', 'Mariscos', 'Frutos secos')
);

create table Contiene
(
Nom_Ingrediente varchar(50),
Cod_Plato char(10),
constraint fk_Nom_Ingrediente_Contiene foreign key (Nom_Ingrediente) references
Ingrediente (Nombre) on update cascade on delete cascade,
constraint fk_Cod_Plato_Contiene foreign key (Cod_Plato) references Plato (Cod_Plato) on
update cascade on delete cascade,
constraint pk_Ofrece primary key (Nom_Ingrediente, Cod_Plato)
);

create table Fecha
(
Fecha datetime primary key
);

create table HisEstSem
(
Prob float default 0,
Fecha datetime,
Nom1 varchar(50),
Nom2 varchar(50),
constraint fk_Fech foreign key (Fecha) references Fecha (Fecha) on update cascade on
delete cascade,
constraint pk_HisEstSemTd primary key (Fecha, Nom1,Nom2)
);

create table HisEstSemTd
(
Prob float default 0,
Fecha datetime,
Nom1 varchar(50),
Nom2 varchar(50),
NifLocal char(9),
constraint fk_Fec foreign key (Fecha) references Fecha (Fecha) on update cascade on
delete cascade,


constraint pk_HisEstSemTd primary key (Fecha, Nom1,Nom2)
);

insert into Local values('12345678B', 'Uria', 'Bar', 'Pajarito', 'Arturo Campión');
```

```sql
insert into Local values('12345678R', 'Chino Ron City', 'Restaurante', 'Xiansheng', 'Pintores Arrúe');
insert into Local values('12345678C', 'Gazteleku Berria','Cafetería','Roberto','Oñatiko Unibertsitatea');

insert into Fabricante values ('Amazon',1);
insert into Fabricante  values ('Nescafé',1);
insert into Fabricante  values ('Bezoya',1);
insert into Fabricante  values ('Don Simon',1);
insert into Fabricante  values ('1906' ,1);
insert into Fabricante  values ('Bizkaiko Txakolina',1);

insert into Producto values('Sidra','2022-02-02' ,'Bebida', 2, 1.50, 'Amazon');
insert into Producto values('Kafea','2022-02-02' ,'Bebida', 1.20, 0.70, 'Nescafé');
insert into Producto values('Ura','2022-02-02' ,'Bebida', 1, 0.50,'Bezoya');
insert into Producto values('Zukua','2022-02-02' ,'Bebida', 1.50, 1, 'Don Simon');
insert into Producto values('Patata tortilla','2022-02-02' ,'Comida', 1.50, 1, 'Amazon');
insert into Producto values('Ardoa','2022-02-02' ,'Bebida', 1.20, 0.70, 'Amazon');
insert into Producto values('Txakoli','2022-02-02' ,'Bebida', 1.50, 1, 'Amazon');
insert into Producto values('Gilda','2022-02-02 ' ,'Comida', 1, 0.50, 'Amazon');
insert into Producto values('Garagardoa','2022-02-02 ' ,'Bebida', 1.25, 0.70, 'Amazon');
insert into Producto values('Colacao','2022-02-02' ,'Bebida', 1, 0.50, 'Amazon');
insert into Producto values('Falafel','2022-02-02' ,'Plato', 3, 3, 'Amazon');
insert into Producto values('Nuggets con patata','2022-02-02' ,'Plato', 3, 3, 'Amazon');
insert into Producto values('Lentejas','2022-02-02' ,'Plato', 3, 3, 'Amazon');
insert into Producto values('Garbanzos','2022-02-02' ,'Plato', 3, 3, 'Amazon');
insert into Producto values('Pure de verduras','2022-02-02' ,'Plato', 3, 3, 'Amazon');
insert into Producto values('Croquetas de espinaca','2022-02-02' ,'Plato', 3, 3, 'Amazon');
insert into Producto values('Carbonara Vegana','2022-02-02' ,'Plato', 3, 3, 'Amazon');
insert into Producto values('Sopa de cebolla Francesa','2022-02-02' ,'Plato', 3, 3, 'Amazon');
insert into Producto values('Curry de anacardos','2022-02-02' ,'Plato', 3, 3, 'Amazon');
insert into Producto values('Bollo suizo vegano','2022-02-02' ,'Plato', 3, 3, 'Amazon');
insert into Producto values('Flan de caqui','2022-02-02' ,'Plato', 3, 3, 'Amazon');
insert into Producto values('Arroz con leche','2022-02-02' , 'Plato', 3, 3, 'Amazon');
insert into Producto values('Entrecot','2022-02-02' , 'Plato', 3, 3, 'Amazon');


insert into Vende values ('Sidra', 1000, '12345678C');
insert into Vende values ('Sidra', 1000, '12345678B');
insert into Vende values ('Sidra', 10, '12345678R');

insert into Vende values ('Kafea', 10, '12345678C');
insert into Vende values ('Kafea', 1000, '12345678B');
insert into Vende values ('Kafea', 10, '12345678R');

insert into Vende values ('Ura', 10, '12345678C');
insert into Vende values ('Ura', 1000, '12345678B');
insert into Vende values ('Ura', 10, '12345678R');
```

```sql
insert into Vende values ('Zukua', 10, '12345678C');
insert into Vende values ('Zukua', 1000, '12345678B');
insert into Vende values ('Zukua', 10, '12345678R');

insert into Vende values ('Patata Tortilla', 10, '12345678C');
insert into Vende values ('Patata Tortilla', 1000, '12345678B');
insert into Vende values ('Patata Tortilla', 10, '12345678R');

insert into Vende values ('Ardoa', 1000, '12345678R');
insert into Vende values ('Ardoa', 1000, '12345678C');
insert into Vende values ('Ardoa', 10, '12345678B');

insert into Vende values ('Txakoli', 10, '12345678R');
insert into Vende values ('Txakoli', 1000, '12345678C');
insert into Vende values ('Txakoli', 1000, '12345678B');

insert into Vende values ('Gilda', 10, '12345678R');
insert into Vende values ('Gilda', 1000, '12345678C');
insert into Vende values ('Gilda', 1000, '12345678B');

insert into Vende values ('Garagardoa', 10, '12345678R');
insert into Vende values ('Garagardoa', 1000, '12345678C');
insert into Vende values ('Garagardoa', 1000, '12345678B');

insert into Vende values ('Colacao', 10, '12345678R');
insert into Vende values ('Colacao', 1000, '12345678C');
insert into Vende values ('Colacao', 1000, '12345678B');

insert into ingrediente values ('Pan','Gluten');
insert into ingrediente values ('Tomate', '');
insert into ingrediente values ('Garbanzo','');
insert into ingrediente values ('Ajo','');
insert into ingrediente values ('Cebolla','');
insert into ingrediente values ('Cilantro','');
insert into ingrediente values ('Lentejas', '');
insert into ingrediente values ('Chorizo','');
insert into ingrediente values ('Patata','');
insert into ingrediente values ('Zanahoria','');
insert into ingrediente values ('Guisantes','');
insert into ingrediente values ('Pan rallado','Gluten');
insert into ingrediente values ('Agua', '');
insert into ingrediente values ('Sal','');
insert into ingrediente values ('Calabacin','');
insert into ingrediente values ('Harina', '');
insert into ingrediente values ('Espinacas','');
insert into ingrediente values ('Pasta', 'Gluten');
insert into ingrediente values ('Tofu','');
```

```sql
insert into ingrediente values ('Leche vegetal','');
insert into ingrediente values ('Anacardos', '');
insert into ingrediente values ('Arroz','');
insert into ingrediente values ('Curry','');
insert into ingrediente values ('Margarina','');
insert into ingrediente values ('Leche de soja','');
insert into ingrediente values ('Azucar','');
insert into ingrediente values ('Levadura','');
insert into ingrediente values ('Harina de trigo','');
insert into ingrediente values ('Leche','');
insert into ingrediente values ('Canela','');
insert into ingrediente values ('Caqui','');
insert into ingrediente values ('Huevo','');
insert into ingrediente values ('Caramelo liquido','');
insert into ingrediente values ('Carne','');
insert into ingrediente values ('Patatas fritas','');

insert into plato values (1,'Vegetariano','Falafel', 'Segundo',3);
insert into contiene values ('Pan',1);
insert into contiene values ('Tomate',1);
insert into contiene values ('Garbanzo',1);
insert into contiene values ('Ajo',1);
insert into contiene values ('Cebolla',1);
insert into contiene values ('Cilantro',1);

insert into plato values (2,'Vegano','Nuggets con patata', 'Segundo',3);
insert into contiene values ('Cebolla',2);
insert into contiene values ('Patata',2);
insert into contiene values ('Zanahoria',2);
insert into contiene values ('Guisantes',2);
insert into contiene values ('Pan rallado',2);

insert into plato values (3, 'Normal', 'Lentejas', 'Primero',3);
insert into contiene values ('Pan',3);
insert into contiene values ('Lentejas',3);
insert into contiene values ('Chorizo',3);
insert into contiene values ('Patata',3);

insert into plato values (4, 'Normal', 'Garbanzos','Primero',3);
insert into contiene values ('Pan',4);
insert into contiene values ('Garbanzo',4);
insert into contiene values ('Patata',4);
insert into contiene values ('Chorizo',4);


insert into plato values (5, 'Normal', 'Pure de verduras','Primero',3);
insert into contiene values ('Pan',5);
insert into contiene values ('Zanahoria',5);
```

```sql
insert into contiene values ('Calabacin',5);
insert into contiene values ('cebolla',5);

insert into plato values (6, 'Vegano', 'Croquetas de espinaca','Segundo',3);
insert into contiene values ('Pan',6);
insert into contiene values ('Harina',6);
insert into contiene values ('Pan rallado',6);
insert into contiene values ('Espinacas',6);

insert into plato values (7, 'Vegano', 'Carbonara Vegana','Primero',3);
insert into contiene values ('Pan',7);
insert into contiene values ('Pasta',7);
insert into contiene values ('Tofu',7);
insert into contiene values ('Leche vegetal',7);

insert into plato values (8, 'Vegetariano', 'Sopa de cebolla Francesa','Primero',3);
insert into contiene values ('Pan',8);
insert into contiene values ('Agua',8);
insert into contiene values ('Cebolla',8);
insert into contiene values ('Sal',8);

insert into plato values (9, 'Vegetariano', 'Curry de anacardos','Primero',3);
insert into contiene values ('Pan',9);
insert into contiene values ('Anacardos',9);
insert into contiene values ('Arroz',9);
insert into contiene values ('Curry',9);

insert into plato values (10, 'Vegano', 'Bollo suizo vegano', 'Postre',3);
insert into contiene values ('Margarina',10);
insert into contiene values ('Leche de soja',10);
insert into contiene values ('Levadura',10);
insert into contiene values ('Azucar',10);
insert into contiene values ('Harina de trigo',10);
insert into contiene values ('Agua',10);
insert into contiene values ('Sal',10);

insert plato values(11 , 'Vegetariano', 'Flan de caqui', 'Postre',3);
insert into contiene values ('Caqui',11);
insert into contiene values ('Huevo',11);
insert into contiene values ('Leche',11);
insert into contiene values ('Caramelo liquido',11);
insert into contiene values ('Azucar',11);

insert into plato values (12, 'Normal', 'Arroz con leche','Postre',3);
insert into contiene values ('Arroz',12);
insert into contiene values ('Leche',12);
insert into contiene values ('Azucar',12);
insert into contiene values ('Canela',12);
```

```sql
insert into plato values (13, 'Normal', 'Entrecot','Segundo',3);
insert into contiene values ('Carne',13);
insert into contiene values ('Sal',13);
insert into contiene values ('Ajo',13);
insert into contiene values ('Patatas fritas',13);

delimiter //
create trigger modificar_stock
after insert on tiene
for each row
begin
if (select TipoOperacion from operaciones where NumTrans = NEW.NumTrans) != 'A' then
        update vende set Stock = Stock - NEW.N_Unidades
                where NIFLocal = (select NIF from operaciones where NumTrans =
NEW.NumTrans) and NomProducto = NEW.NomProducto;
end if;
end;//

delimiter //
create trigger modificar_stock2
after update on tiene
for each row
begin
update vende set Stock = Stock - (NEW.N_Unidades-OLD.N_Unidades)
        where NIFLocal = (select NIF from operaciones where NumTrans = NEW.NumTrans)
and NomProducto = NEW.NomProducto;
end;//

delimiter //
create trigger encriptar_contrasenya
before insert on usuario
for each row
begin
declare contrasenya varchar(20) default (select Contrasenya from Usuario where DNI =
NEW.DNI);
   set Contrasenya = aes_encrypt(contrasenya,'elorrieta');
end;//

DELIMITER //
create event llegada_apro
on schedule every 1 day starts current_date()
on completion preserve
do
begin
   DECLARE fec date;
   declare fin bool default 0;
   declare zbk integer default 0;
```

```
    DECLARE C1 CURSOR FOR select Fecha,NumTrans from operaciones where
TipoOperacion = 'A' and Fecha = DATE_ADD(current_date(),INTERVAL -3 DAY);
    declare continue handler for not found set fin = 1;
        open C1;
                fetch c1 into fec,zbk;
                    while fin = 0 do
                                update vende set Stock = Stock + (select N_Unidades
from tiene where NumTrans = zbk)
                                where NIFLocal = (select NIF from operaciones where
NumTrans = zbk) and NomProducto = (select NomProducto from tiene where NumTrans =
zbk);
                        fetch c1 into fec,zbk;
                    end while;
        close C1;
end//
DELIMITER ;

DELIMITER //
create function importeTotal() returns float reads sql data
begin

declare totala float;

select sum(Precio) into totala from tiene where NumTrans = (select max(NumTrans) from
tiene);

return totala;

end//
DELIMITER ;

DELIMITER //
CREATE FUNCTION funtzioProbabilitateLokala(prodA varchar(50), prodB varchar(50),nif
char(9))
RETURNS float
READS SQL DATA
begin
declare emaitza float;
declare Pab float;
declare tot1 int;
declare tot2 int;
declare Pa float;
declare Pb float;
select count(*) into Pab from tiene a join operaciones b on a.numtrans=b.numtrans where
a.NumTrans in (select b.numtrans
from tiene a join operaciones b on a.numtrans=b.numtrans
where NomProducto=prodA and b.NIF=nif) and NomProducto=prodB and b.NIF=nif;
```

```sql
select count(a.NumTrans) into tot1 from tiene a join operaciones b on
a.numtrans=b.numtrans where NomProducto=prodA and b.NIF=nif;
select count(*) into Pa from tiene a join operaciones b on a.numtrans=b.numtrans where
a.NumTrans in (select distinct a.NumTrans from tiene a join operaciones b on
a.numtrans=b.numtrans where b.NIF=nif) and NomProducto=prodA and b.NIF=nif;
select count(*) into Pb from tiene a join operaciones b on a.numtrans=b.numtrans where
a.NumTrans in (select distinct a.NumTrans from tiene a join operaciones b on
a.numtrans=b.numtrans where b.NIF=nif) and NomProducto=prodB and b.NIF=nif;
select max(a.NumTrans) into tot2 from tiene a join operaciones b on a.numtrans=b.numtrans
where b.NIF=nif;
set emaitza=((Pab/tot1)*(Pa/tot2))/(Pb/tot2);
return emaitza;
end//
DELIMITER;

DELIMITER //
CREATE FUNCTION funtzioprobabilitateOrokorra(prodA varchar(50), prodB varchar(50))
RETURNS float
 READS SQL DATA
begin
declare emaitza float;
declare Pab float;
declare tot1 int;
declare tot2 int;
declare Pa float;
declare Pb float;
select count(*) into Pab from tiene where NumTrans in (select NumTrans from tiene where
NomProducto=ProdA) and NomProducto=prodB;
select count(NumTrans) into tot1 from tiene where NomProducto=prodA;
select count(*) into Pa from tiene where NumTrans in (select distinct NumTrans from tiene)
and NomProducto=prodA;
select count(*) into Pb from tiene where NumTrans in (select distinct NumTrans from tiene)
and NomProducto=prodB;
select max(NumTrans) into tot2 from tiene;
set emaitza=((Pab/tot1)*(Pa/tot2))/(Pb/tot2);
return emaitza;
end//
```