

Practica-1-Resuelta.pdf



PedroChota



GESTIÓN Y ADMINISTRACIÓN DE BASES DE DATOS



3º Grado en Ingeniería Informática



Escuela Politécnica Superior (Jaén) Universidad de Jaén



ESTUDIAR QUEMA, PERO FLAMIN' HOT QUEMA MÁS

Wuolah: PedroChota

Práctica 1 - Resuelta

ing_data.sql:

```
1 INSERT INTO Bank VALUES (1465, 'ING Direct');
 2 INSERT INTO Bank VALUES (3067, 'Caja Rural de Ja�n');
3 INSERT INTO Bank VALUES (0049, 'Banco Santander');
  5 INSERT INTO Office values (1465,1, Oficina Virtual de ING DIRECT
  61', 'Oficina virtual');
 7 INSERT INTO Office values (1465, 13, 'Oficina Naranja de ING DIRECT
 8 13', 'C/ Neptuno 6, 18004 Granada');
 9 INSERT INTO Office values (1465, 3, 'Oficina Naranja de ING DIRECT
 10 3', 'Avda. Luis Morales 32 Edificio Forum, 41018 Sevilla');
 11 INSERT INTO Office values (3067, 47, 'Oficina de Caja Rural de Jaen
 12 47', 'Avda. de Andalucia, 83 Edificio Royal de Ja�n, 23005
 13 Jan');
 14 INSERT INTO Office values (3067,1, Officina Central de Caja Rural
 15 de Ja�n 1', 'Paseo de la Estaci�n n�3');
 16 INSERT INTO Office values (0049,1653, Officina de Banco Santander
17 en Ja�n', 'Calle Arquitecto Berges, 6, 23007, Ja�n (Ja�n)');
19 INSERT INTO Owner values ('26105629X', 'Carlos', 'Almagro',
20 'Rub�');
21 INSERT INTO Owner values ('73505320Z', 'Mar�a', 'Jim�nez',
22 'Rota');, cli_
23 INSERT INTO Owner values ('73505320B', 'Susana', 'Ledesma', 'Torres');
 25 INSERT INTO Owner values ('73505828A', 'Alfredo', 'Ledesma',
26 'Torres');
   INSERT INTO Owner values ('20518826D', 'Marcos', 'Quesada',
28 'Snchez');
 30 INSERT INTO Owner values ('50595329D', 'Daniel', 'Domonguez',
   'Palomino');
 31
 32 INSERT INTO Owner values ('33005891X', 'Rosa', 'Sez',
 33 'Aguilera');
 34 INSERT INTO Owner values ('43595301F', 'Ana', 'Martinez',
35 'S nchez');
36 INSERT INTO Owner values ('73505071V', 'Teresa', 'Araque',
37 'Galiano');
 38 INSERT INTO Owner values ('53510321B', 'Manuel', 'Quesada',
39 'Stanchez');
40 INSERT INTO Owner values ('73009841C', 'Maria Luisa', 'Martos',
41 'Ortega');
42 INSERT INTO Owner values ('60505326A', 'Maria Joso', 'Jimonez',
43 'Abad');
 44 INSERT INTO Owner values ('77535822S', 'Pedro', 'Sonchez',
45 'S nchez');
46 INSERT INTO Owner values ('75529325T', 'Raul', 'Moreno',
47 'Torquemada');
48 INSERT INTO Owner values ('73515322R', 'Sandra', 'Palop',
 49 'Lanzas');
```

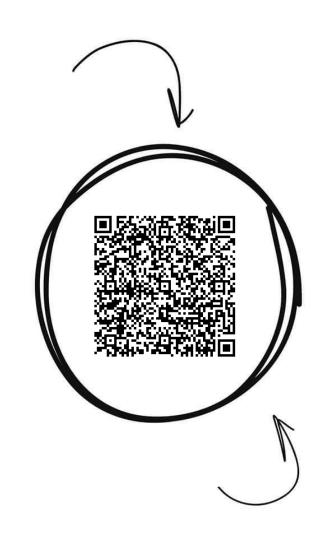


```
51 INSERT INTO Client values ('26105629X', 'married','02-MAY-1980');
 52 INSERT INTO Client values ('73505320Z', 'married','02-MAY-1983');
 53 INSERT INTO Client values ('73505320B', 'widow', '02-MAY-1970');
 54 INSERT INTO Client values ('73505828A', 'married','02-MAY-1951');
55 INSERT INTO Client values ('20518826D', 'single', '02-MAY-1979');
56 INSERT INTO Client values ('50595329D', 'married', '02-MAY-1962');
57 INSERT INTO Client values ('33005891X', 'single', '02-MAY-1982');
58 INSERT INTO Client values ('43595301F', 'married','02-MAY-1967');
59 INSERT INTO Client values ('73505071V', 'single', '02-MAY-1956');
60 INSERT INTO Client values ('53510321B', 'single', '02-MAY-1955');
62 INSERT INTO OwnerAsAc values ('26105629X');
63 INSERT INTO OwnerAsAc values ('73505320Z');
64 INSERT INTO OwnerAsAc values ('73009841C');
65 INSERT INTO OwnerAsAc values ('60505326A');
66 INSERT INTO OwnerAsAc values ('77535822S');
67 INSERT INTO OwnerAsAc values ('75529325T');
68 INSERT INTO OwnerAsAc values ('73515322R');
 71 INSERT INTO Account VALUES (1,1465,1,1,1000);
 72 INSERT INTO Account VALUES (2,1465,1,2,10023);
 73 INSERT INTO Account VALUES (3,1465,1,3,-1503);
 74 INSERT INTO Account VALUES (4,1465,1,4,7002);
 75 INSERT INTO Account VALUES (5,1465,1,5,51004);
76 INSERT INTO Account VALUES (6,1465,1,6,141002);
 77 INSERT INTO Account VALUES (7,1465,1,7,3209);
 78 INSERT INTO Account VALUES (8,1465,1,8,-1001);
79 INSERT INTO Account VALUES (9,1465,1,9,105);
80 INSERT INTO Account VALUES (10,1465,1,10,10404);
81 INSERT INTO Account VALUES (11,1465,3,1,10603);
82 INSERT INTO Account VALUES (12,1465,3,2,17002);
83 INSERT INTO Account VALUES (13,1465,3,3,506);
84 INSERT INTO Account VALUES (14,1465,13,1,10);
85 INSERT INTO Account VALUES (15,1465,13,2,10009);
87 INSERT INTO Account VALUES (16,3067,47,341,10603);
88 INSERT INTO Account VALUES (17, 3067, 47, 12, 17602);
89 INSERT INTO Account VALUES (18,3067,47,2342,5069);
90 INSERT INTO Account VALUES (19,3067,47,1227,-10);
91 INSERT INTO Account VALUES (20,3067,1,92,1065);
92
93 INSERT INTO Account VALUES (21,0049,1653,21,429);
94 INSERT INTO Account VALUES (22,0049,1653,1025,2);
95 INSERT INTO Account VALUES (23,0049,1653,143,61503);
 96 INSERT INTO Account VALUES (24,0049,1653,412,-7002);
97 INSERT INTO Account VALUES (25,0049,1653,5,5100);
98
100 INSERT INTO ING Account values (1, 'Orange account', 'C/ Manuel
101 Caballero 13, 23009, Jaen');
102 INSERT INTO ING Account values (2, 'Orange account', 'C/ Mesones 12,
103 23008, Jaen');
104 INSERT INTO ING Account values (3, 'fiscal savings account', 'Avda.
105 Andalucia 134, 41019, Sevilla');
106
```





GESTIÓN Y ADMINISTRACIÓN DE...



Banco de apuntes de la



Comparte estos flyers en tu clase y consigue más dinero y recompensas

- Imprime esta hoja
- 2 Recorta por la mitad
- Coloca en un lugar visible para que tus compis puedan escanar y acceder a apuntes
- Llévate dinero por cada descarga de los documentos descargados a través de tu QR





```
107 INSERT INTO ING Account values (4, 'Orange account', 'C/ Almendros
108 Aguilar 13, 23007, Jaen');
109 INSERT INTO ING Account values (5, 'Orange account', 'Avda. Madrid
110 16 5A, 23009, Jaen');
111 INSERT INTO ING Account values (6, 'Orange account', 'C/ Paseo de la
112 Estacin 3 4A, 23007, Jaen');
113 INSERT INTO ING Account values (7, 'home savings account','C/ Rioja
114 23, 23009, Jaen');
115 INSERT INTO ING Account values (8, 'home savings account', 'C/ Fuente
116 de la Plata 18 2C, 23009, Jaen');
117 INSERT INTO ING Account values (9, 'Orange account', 'C/ Adarbes
118 Bajos 113 7B, 23007, Jaen');
119 INSERT INTO ING Account values (10, 'fiscal savings account', 'C/
120 Ru 2 Jim nez 27 2A, 23009, Jaen');
121 INSERT INTO ING Account values (11, 'Orange account', 'C/ Angulo 3,
122 18002, Granada');
123 INSERT INTO ING Account values (12, 'Orange account', 'Avda.
124 Andalucia 34 6D, 23009, Jaen');
125 INSERT INTO ING Account values (13, 'deposit account', 'C/ Catalu
126 83 4C, 23009, Jaen');
127 INSERT INTO ING Account values (14, 'Orange account', 'C/
128 Salsipuedes 2, 23009, Jaen');
129 INSERT INTO ING Account values (15, 'deposit account', 'C/ Alameda 55
130 3A, 23009, Jaen');
131
132 INSERT INTO Associated_Account values(16);
133 INSERT INTO Associated Account values (17);
134 INSERT INTO Associated Account values (18);
135 INSERT INTO Associated Account values (19);
136 INSERT INTO Associated Account values (20);
137 INSERT INTO Associated Account values (21);
138 INSERT INTO Associated Account values (22);
139 INSERT INTO Associated Account values (23);
140 INSERT INTO Associated_Account values(24);
141 INSERT INTO Associated_Account values(25);
143 INSERT INTO "INGAC-ASAC" VALUES (1,16);
144 INSERT INTO "INGAC-ASAC" VALUES (1,17);
145 INSERT INTO "INGAC-AsAc" VALUES(3,18);
146 INSERT INTO "INGAC-AsAc" VALUES (5,19);
147 INSERT INTO "INGAC-ASAC" VALUES (5,20);
148 INSERT INTO "INGAC-AsAc" VALUES (5,21);
149 INSERT INTO "INGAC-AsAc" VALUES (6,22);
150 INSERT INTO "INGAC-ASAC" VALUES (7,23);
151 INSERT INTO "INGAC-ASAC" VALUES (9,24);
152 INSERT INTO "INGAC-AsAc" VALUES(11,25);
153
154
155 INSERT INTO "Cli-Acc" values (1, '26105629X', 10);
156 INSERT INTO "Cli-Acc" values (2, '26105629X', 12);
157 INSERT INTO "Cli-Acc" values (3, '73505320Z', 11);
158 INSERT INTO "Cli-Acc" values (4, '73505320B', 14);
159 INSERT INTO "Cli-Acc" values (5, '73505320B', 2);
160 INSERT INTO "Cli-Acc" values (6, '73505828A', 3);
161 INSERT INTO "Cli-Acc" values (7, '20518826D', 5);
162 INSERT INTO "Cli-Acc" values (8, '50595329D', 4);
163
```



```
164 INSERT INTO "Cli-Acc" values (9, '33005891X', 5);
165 INSERT INTO "Cli-Acc" values (10, '43595301F', 7);
166 INSERT INTO "Cli-Acc" values (11, '73505071V', 8);
167 INSERT INTO "Cli-Acc" values (12, '53510321B', 1);
168 INSERT INTO "Cli-Acc" values (13, '53510321B',9);
169 INSERT INTO "Cli-Acc" values (14, '26105629X', 13);
170 INSERT INTO "Cli-Acc" values (15, '73505320Z', 6);
171 INSERT INTO "Cli-Acc" values (16, '73505320B', 6);
172 INSERT INTO "Cli-Acc" values (17, '73505828A',2);
173 INSERT INTO "Cli-Acc" values (18, '20518826D', 13);
175 INSERT INTO "OwnerAsAc-AsAc" VALUES (1, '26105629X', 16);
176 INSERT INTO "OwnerAsAc-AsAc" VALUES (2, '26105629X', 20);
177 INSERT INTO "OwnerAsAc-AsAc" VALUES (3, '73505320Z', 17);
178 INSERT INTO "OwnerAsAc-AsAc" VALUES (4, '73505320Z', 18);
179 INSERT INTO "OwnerAsAc-AsAc" VALUES (5, '73009841C', 19);
180 INSERT INTO "OwnerAsAc-AsAc" VALUES (6, '60505326A', 20);
181 INSERT INTO "OwnerAsAc-AsAc" VALUES (7, 60505326A, 21);
182 INSERT INTO "OwnerAsAc-AsAc" VALUES (8, '77535822S', 22);
183 INSERT INTO "OwnerAsAc-AsAc" VALUES (9, '77535822S', 23);
184 INSERT INTO "OwnerAsAc-AsAc" VALUES (10, '75529325T', 24);
185 INSERT INTO "OwnerAsAc-AsAc" VALUES (11, '73515322R', 25);
186 INSERT INTO "OwnerAsAc-AsAc" VALUES (12, '73515322R', 16);
187 INSERT INTO "OwnerAsAc-AsAc" VALUES (13, '73515322R', 17);
188 INSERT INTO "OwnerAsAc-AsAc" VALUES (14, '73505320Z', 16);
189 INSERT INTO "OwnerAsAc-AsAc" VALUES (15, '73515322R', 23);
190
191 INSERT INTO Service VALUES (1, 'ING SEGUROS');
192 INSERT INTO Service VALUES (2, 'ING FONDOS');
193 INSERT INTO Service VALUES (3, 'ING BROKER');
194 INSERT INTO Service VALUES (4, 'ING HIPOTECA');
196 INSERT INTO "Client-Service" VALUES ('26105629X', 1);
197 INSERT INTO "Client-Service" VALUES ('26105629X',2);
198 INSERT INTO "Client-Service" VALUES('73505320Z',3);
199 INSERT INTO "Client-Service" VALUES ('73505320B', 4);
200 INSERT INTO "Client-Service" VALUES ('73505320B',1);
201 INSERT INTO "Client-Service" VALUES ('73505828A',2);
202 INSERT INTO "Client-Service" VALUES ('20518826D', 3);
203
204
205 INSERT INTO Fund values (1, 'Renta Variable Global FIMF');
206 INSERT INTO Fund values (2, 'Mixto Europeo');
207 INSERT INTO Fund values (3, 'IBEX 35');
208
209 INSERT INTO Operation values (1, TO DATE ( 2014-11-02 19:27:14',
210 'yyyy-mm-dd hh24:mi:ss'), 1);
211 INSERT INTO Operation values (2, TO DATE ('2015-02-22 15:08:00',
212 'yyyy-mm-dd hh24:mi:ss'), 2);
213 INSERT INTO Operation values (3, TO DATE ('2015-01-23 19:02:41',
214 'yyyy-mm-dd hh24:mi:ss'), 3);
215 INSERT INTO Operation values (4, TO DATE ('2015-01-30 14:07:01',
216 'yyyy-mm-dd hh24:mi:ss'),4);
217 INSERT INTO Operation values (5, TO DATE ('2015-03-04 19:01:09',
218 'yyyy-mm-dd hh24:mi:ss'),5);
219 INSERT INTO Operation values (6, TO_DATE('2015-03-08 13:32:46',
220 'yyyy-mm-dd hh24:mi:ss'), 6);
```



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```
221 INSERT INTO Operation values (7, TO_DATE('2015-07-09 19:46:56',
222 'yyyy-mm-dd hh24:mi:ss'), 7);
223 INSERT INTO Operation values (8, TO DATE ('2015-07-01 11:05:54',
224 'yyyy-mm-dd hh24:mi:ss'),8);
225 INSERT INTO Operation values (9, TO DATE ('2015-03-12 12:01:45',
226 'yyyy-mm-dd hh24:mi:ss'), 9);
227 INSERT INTO Operation values (10, TO DATE ('2014-11-20 10:00:52',
228 'yyyy-mm-dd hh24:mi:ss'),10);
229 INSERT INTO Operation values (11, TO DATE ('2015-10-11 11:12:40',
230 'yyyy-mm-dd hh24:mi:ss'),11);
231 INSERT INTO Operation values (12, TO DATE ('2015-03-17 17:15:34',
232 'yyyy-mm-dd hh24:mi:ss'), 12);
233 INSERT INTO Operation values (13, TO DATE ('2015-04-01 19:51:24',
234 'yyyy-mm-dd hh24:mi:ss'),13);
235 INSERT INTO Operation values (14, TO DATE ('2015-05-06 13:17:14',
236 'yyyy-mm-dd hh24:mi:ss'),14);
   INSERT INTO Operation values (15, TO DATE ('2015-06-02 19:09:06',
   'yyyy-mm-dd hh24:mi:ss'),15);
   INSERT INTO Operation values (16, TO DATE ('2015-08-03 12:08:41',
   'yyyy-mm-dd hh24:mi:ss'),1);
   INSERT INTO Operation values (17, TO DATE ('2015-07-02 14:07:23',
   'yyyy-mm-dd hh24:mi:ss'),2);
   INSERT INTO Operation values (18, TO DATE ('2015-07-02 15:05:58',
   'yyyy-mm-dd hh24:mi:ss'),3);
   INSERT INTO Operation values (19, TO DATE ('2015-02-02 12:21:00',
   'yyyy-mm-dd hh24:mi:ss'),4);
   INSERT INTO Operation values (20, TO DATE ('2015-03-02 13:29:59',
   'yyyy-mm-dd hh24:mi:ss'),5);
   INSERT INTO OP D VALUES (1,12000, 'once', 5);
   INSERT INTO OP_D VALUES (2,1500, 'monthly',7);
   INSERT INTO OP D VALUES (3,1000, 'annual',11);
   INSERT INTO OP I VALUES (4,0049,1653,000675,450);
   INSERT INTO OP I VALUES (5,1465,1,001242,5000);
   INSERT INTO OP I VALUES (6,0049,1653,000431,8900);
   INSERT INTO OP I VALUES (7,1465,13,014675,50);
   INSERT INTO OP MCA VALUES (8, 'F', 1);
   INSERT INTO OF MCA VALUES (9, 'T', 2);
   INSERT INTO OP_MCA VALUES (10, 'F', 3);
   INSERT INTO OP MCA VALUES (11, 'F', 5);
   INSERT INTO OP OI VALUES (12,12000, 'once',5);
   INSERT INTO OP OI VALUES (13,1500, 'monthly',7);
   INSERT INTO OP OI VALUES (14,1000, 'annual',11);
   INSERT INTO OP OSRFI VALUES (15, 5123, 1500, 'subscription',1);
   INSERT INTO OP OSRFI VALUES (16,41455, 23000, 'subscription',2);
   INSERT INTO OP_OSRFI VALUES (17, 52453, 15500, 'subscription',3);
   INSERT INTO OP_OSRFI VALUES (18, 5669, 800, 'refund',1);
   INSERT INTO OP OSRFI VALUES (19, 5023, 22900, 'subscription',3);
```



```
INSERT INTO OP OSRFI VALUES (20, 12580, 10500, 'subscription',2);
    INSERT INTO Internet VALUES (1, '147.214.189.231', TO DATE ('2014-11-
    02 19:20:14', 'yyyy-mm-dd hh24:mi:ss'),TO_DATE('2014-11-02
    19:28:14', 'yyyy-mm-dd hh24:mi:ss'), NULL,1,NULL,NULL);
    INSERT INTO Internet VALUES (2, '147.054.209.232', TO DATE ('2015-02-
    22 15:00:00', 'yyyy-mm-dd hh24:mi:ss'),TO_DATE('2015-02-22
    15:08:20', 'yyyy-mm-dd hh24:mi:ss'), NULL, 2, NULL, NULL);
    INSERT INTO Internet VALUES(3, '143.212.101.135', TO DATE('2015-01-
    23 19:01:04', 'yyyy-mm-dd hh24:mi:ss'), TO DATE('2015-01-23
    19:02:51', 'yyyy-mm-dd hh24:mi:ss'), NULL, 3, NULL, NULL);
    INSERT INTO Internet VALUES (4, '137.115.109.201', TO DATE ('2015-07-
    01 11:04:54', 'yyyy-mm-dd hh24:mi:ss'), TO DATE('2015-07-01
    11:06:54', 'yyyy-mm-dd hh24:mi:ss'), 8, NULL, NULL, NULL);
    INSERT INTO Internet VALUES (5, '182.114.182.245', TO DATE ('2015-03-
    12 12:00:45', 'yyyy-mm-dd hh24:mi:ss'),TO_DATE('2015-03-12
    12:02:45', 'yyyy-mm-dd hh24:mi:ss'), 9, NULL, NULL, NULL);
    INSERT INTO Internet VALUES (6, '147.014.109.131', TO_DATE ('2014-11-
    20 10:00:02', 'yyyy-mm-dd hh24:mi:ss'),TO_DATE('2014-11-20
    10:01:52', 'yyyy-mm-dd hh24:mi:ss'), 10, NULL, NULL, NULL);
    INSERT INTO Internet VALUES (7, '147.214.189.231', TO DATE ('2015-03-
    17 17:13:34', 'yyyy-mm-dd hh24:mi:ss'), TO DATE('2015-03-17
    17:15:34', 'yyyy-mm-dd hh24:mi:ss'), NULL, NULL, 12, NULL);
    INSERT INTO Internet VALUES (15, '147.214.189.231', TO DATE ('2015-04-
    01 19:50:24', 'yyyy-mm-dd hh24:mi:ss'), TO DATE('2015-04-01
    19:55:24', 'yyyy-mm-dd hh24:mi:ss'), NULL, NULL, 13, NULL);
    INSERT INTO Internet VALUES (16, '147.214.189.231', TO DATE ('2015-05-
    06 13:15:14', 'yyyy-mm-dd hh24:mi:ss'), TO DATE('2015-05-06
    13:17:54', 'yyyy-mm-dd hh24:mi:ss'), NULL, NULL, 14, NULL);
    INSERT INTO Telephone Values (9, '953222227', TO DATE ('2015-03-17
    17:15:34', 'yyyy-mm-dd hh24:mi:ss'), 17, NULL, NULL, 15);
    INSERT INTO Telephone Values (10, '9532222227', TO DATE ('2015-04-01
    19:51:24', 'yyyy-mm-dd hh24:mi:ss'), 17, NULL, NULL, 16);
    INSERT INTO Telephone Values (11, '953222224', TO DATE ('2015-05-06
    13:17:14', 'yyyy-mm-dd hh24:mi:ss'), 14, NULL, NULL, 17);
    INSERT INTO Telephone Values (12, '953222222', TO DATE ('2015-07-02
    15:05:58', 'yyyy-mm-dd hh24:mi:ss'), 12, NULL, NULL, 18);
    INSERT INTO Telephone Values (13, '953222222', TO DATE ('2015-02-02
    12:21:00', 'yyyy-mm-dd hh24:mi:ss'), 12, NULL, NULL, 19);
    INSERT INTO Telephone Values (14, '953222224', TO DATE ('2015-03-02
    13:29:59', 'yyyy-mm-dd hh24:mi:ss'), 11, NULL, NULL, 20);
ing scheme.sql:
   CREATE TABLE Bank
  2
        id NUMBER NOT NULL ,
                VARCHAR2 (30 CHAR) NOT NULL
```



6 ALTER TABLE Bank ADD CONSTRAINT Bank_PK PRIMARY KEY (id) ; 7 ALTER TABLE Bank ADD CONSTRAINT Bank UN UNIQUE (name) ;

```
9 CREATE TABLE Office
10 (
   Bank id
               NUMBER NOT NULL ,
11
12
    office number NUMBER NOT NULL ,
   name VARCHAR2 (60) NOT NULL,
13
1 4
   address
                  VARCHAR2 (100) NOT NULL
15 ) ;
16 ALTER TABLE Office ADD CONSTRAINT Office PK PRIMARY KEY ( Bank id,
17 office number ) ;
18 ALTER TABLE Office ADD CONSTRAINT Office UN UNIQUE ( name ) ;
19 ALTER TABLE Office ADD CONSTRAINT Office Bank FK FOREIGN KEY (
20 Bank id ) REFERENCES Bank ( id ) ;
22 CREATE TABLE Account
23
   (
                         INTEGER NOT NULL,
24
     Office_Bank_id NUMBER NOT NULL,
2.5
     Office number NUMBER NOT NULL ,
      account_number NUMBER NOT NULL , balance NUMBER (10,2) NOT NULL
28
     balance
   ) ;
29
30 ALTER TABLE Account ADD CONSTRAINT Account PK PRIMARY KEY ( id ) ;
31 ALTER TABLE Account ADD CONSTRAINT Account UN UNIQUE (
32 Office Bank id, Office number , account number ) ;
33 ALTER TABLE Account ADD CONSTRAINT Account Office FK FOREIGN KEY (
34 Office_Bank_id, Office_number ) REFERENCES Office ( Bank id,
35 office number ) ;
36
37
38 CREATE TABLE ING Account
39 (
40
           INTEGER NOT NULL,
    type varchar2(25) DEFAULT 'Orange account' NOT NULL,
41
    postal address VARCHAR2 (90) NOT NULL ,
d3 constraint ck ing account type check (type in ('Orange
44 account', 'home savings account', 'fiscal savings account',
45 'deposit account'))
46 );
47 ALTER TABLE ING Account ADD CONSTRAINT ING Account PK PRIMARY KEY
49 ALTER TABLE ING Account ADD CONSTRAINT FK ASS 2 FOREIGN KEY ( id )
50 REFERENCES Account ( id ) ;
53 CREATE TABLE Associated Account
54 (id INTEGER NOT NULL
55 );
56 ALTER TABLE Associated Account ADD CONSTRAINT
57 Associated Account PK PRIMARY KEY ( id) ;
58 ALTER TABLE Associated Account ADD CONSTRAINT FK ASS 1 FOREIGN KEY
59 ( id ) REFERENCES Account ( id ) ;
61 CREATE TABLE "INGAc-AsAc"
62 (
63 ING_Account_id INTEGER NOT NULL,
     Associated Account id INTEGER NOT NULL
```



```
65 );
 66 ALTER TABLE "INGAC-ASAC" ADD CONSTRAINT "INGAC-ASAC PK" PRIMARY
 67 KEY ( Associated_Account_id, ING_Account_id ) ;
 68 ALTER TABLE "INGAc-AsAc" ADD CONSTRAINT "INGAC-AsAc FK" FOREIGN
 69 KEY ( Associated Account id ) REFERENCES Associated Account ( id )
 70;
 71 ALTER TABLE "INGAC-AsAc" ADD CONSTRAINT "INGAC-AsAc ING Ac FK"
 72 FOREIGN KEY ( ING Account id ) REFERENCES ING Account ( id ) ;
 74 CREATE TABLE Owner
 75 (
 76 DNI VARCHAR2 (9 CHAR) NOT NULL,
77 name VARCHAR2 (20 CHAR) NOT NULL,
      surname1 VARCHAR2 (20) NOT NULL ,
 79 surname2 VARCHAR2 (20)
 80 );
 81 ALTER TABLE Owner ADD CONSTRAINT Owner PK PRIMARY KEY ( DNI ) ;
 83 CREATE TABLE Client
 84 (
                      VARCHAR2 (9 CHAR) NOT NULL ,
 8.5
      DNI
       marital status VARCHAR2 (10) NOT NULL,
      birthday date DATE,
       constraint ck client marital status CHECK ( marital status in
 89 ('married', 'single', 'widow'))
 90 );
 91 ALTER TABLE Client ADD CONSTRAINT Client_PK PRIMARY KEY ( DNI ) ;
 92 ALTER TABLE Client ADD CONSTRAINT FK ASS 8 FOREIGN KEY ( DNI )
 93 REFERENCES Owner ( DNI ) ;
 95
 96 CREATE TABLE OwnerAsAc
 97 ( DNI VARCHAR2 (9 CHAR) NOT NULL
 98 );
 99 ALTER TABLE OwnerAsAc ADD CONSTRAINT OwnerAsAc PK PRIMARY KEY (
101 ALTER TABLE OwnerAsAc ADD CONSTRAINT FK ASS 9 FOREIGN KEY ( DNI )
102 REFERENCES Owner ( DNI ) ;
104 CREATE TABLE "OwnerAsAc-AsAc"
105 (
                      INTEGER NOT NULL,
106
      OwnerAsAc_DNI VARCHAR2 (9 CHAR) NOT NULL ,
Associated Account_id INTEGER NOT NULL
107
108 Associated Account id
109 );
110 ALTER TABLE "OwnerAsAc-AsAc" ADD CONSTRAINT "OwnerAsAc-AsAc PK"
111 PRIMARY KEY ( id ) ;
112 ALTER TABLE "OwnerAsAc-AsAc" ADD CONSTRAINT "OwnerAsAc-AsAc UN"
113 UNIQUE ( Associated_Account_id, OwnerAsAc_DNI ) ;
114 ALTER TABLE "OwnerAsAc-AsAc" ADD CONSTRAINT "OwnerAsAc-
115 AsAc AsAc FK" FOREIGN KEY ( Associated Account id ) REFERENCES
116 Associated Account ( id ) ;
117 ALTER TABLE "OwnerAsAc-AsAc" ADD CONSTRAINT "OwnerAsAc-
118 Asac OwnerAsac FK" FOREIGN KEY ( OwnerAsac DNI ) REFERENCES
119 OwnerAsAc ( DNI ) ;
120
121 CREATE TABLE "Cli-Acc"
```



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```
122 (
123
                        INTEGER NOT NULL,
124 Client_DNI
                        VARCHAR2 (9 CHAR) NOT NULL ,
125
      ING_Account_id
                        INTEGER NOT NULL
126 );
127 ALTER TABLE "Cli-Acc" ADD CONSTRAINT "Cli-Acc PK" PRIMARY KEY ( id
129 ALTER TABLE "Cli-Acc" ADD CONSTRAINT "Cli-Acc UN" UNIQUE (
130 ING Account id , Client DNI ) ;
131 ALTER TABLE "Cli-Acc" ADD CONSTRAINT "Cli-Acc Client FK" FOREIGN
132 KEY ( Client DNI ) REFERENCES Client ( DNI ) ;
133 ALTER TABLE "Cli-Acc" ADD CONSTRAINT "Cli-Acc ING Account FK"
134 FOREIGN KEY ( ING\_Account\_id) REFERENCES ING\_Account ( id ) ;
136 CREATE TABLE Service
137 (
       id NUMBER NOT NULL ,
138
139
       name VARCHAR2 (80 CHAR) NOT NULL,
140 CONSTRAINT ck service name CHECK (name in ('ING SEGUROS', 'ING
141 FONDOS', 'ING BROKER', 'ING HIPOTECA'))
142
143 );
144 ALTER TABLE Service ADD CONSTRAINT Service PK PRIMARY KEY ( id ) ;
145 ALTER TABLE Service ADD CONSTRAINT Service UN UNIQUE ( name ) ;
147 CREATE TABLE "Client-Service"
148 (
149
       Client DNI VARCHAR2 (9 CHAR) NOT NULL ,
150
       Service_id NUMBER NOT NULL
151 );
152 ALTER TABLE "Client-Service" ADD CONSTRAINT "Client-Service IDX"
153 PRIMARY KEY ( Client DNI, Service id ) ;
154 ALTER TABLE "Client-Service" ADD CONSTRAINT FK_ASS_10 FOREIGN KEY
155 ( Client DNI ) REFERENCES Client ( DNI ) ;
156 ALTER TABLE "Client-Service" ADD CONSTRAINT FK ASS 11 FOREIGN KEY
157 ( Service_id ) REFERENCES Service ( id ) ;
159 CREATE TABLE Fund
160 (
       id SMALLINT NOT NULL ,
161
162
       name VARCHAR2 (120 CHAR) NOT NULL,
     constraint ck fund name check (name in ('Renta Variable Global
163
164 FIMF', 'Mixto Europeo', 'IBEX 35'))
165 );
166 ALTER TABLE Fund ADD CONSTRAINT Fund PK PRIMARY KEY ( id ) ;
168 CREATE TABLE Operation
169 (
170
     cod op
                          NUMBER (9) NOT NULL ,
       "date"
171
                          DATE NOT NULL ,
172
       "Cli-Acc_id"
                        INTEGER NOT NULL
173 );
174 ALTER TABLE Operation ADD CONSTRAINT Operation PK PRIMARY KEY (
175 cod_op ) ;
176 ALTER TABLE Operation ADD CONSTRAINT "Operation Cli-Acc FK"
177 FOREIGN KEY ( "Cli-Acc id" ) REFERENCES "Cli-Acc" ( id ) ;
```



```
179 CREATE TABLE OP D
180 (
181 cod_op
                                      NUMBER (9) NOT NULL ,
182
      amount
                                      NUMBER (9,2) NOT NULL
183
      periodicity
                                       VARCHAR2 (40) NOT NULL ,
"OwnerAsAc-AsAc_id" INTEGER NOT NOLL,

CONSTRAINT ck_opd_periodicity CHECK (periodicity in
186 ('once', 'bimonthly', 'monthly', 'annual'))
188 ALTER TABLE OP D ADD CONSTRAINT OP D PK PRIMARY KEY ( cod op ) ;
189 ALTER TABLE OP D ADD CONSTRAINT FK ASS 3 FOREIGN KEY ( cod op )
190 REFERENCES Operation (cod op);
191 ALTER TABLE OP D ADD CONSTRAINT "OP D OwnerAsAc-AsAc FK" FOREIGN
192 KEY ( "OwnerAsAc-AsAc id" ) REFERENCES "OwnerAsAc-AsAc" ( id ) ;
194 CREATE TABLE OP I
195 (
                            NUMBER (9) NOT NULL,
196
      cod_op
    Office_id_bank
Office_number
Check_number
Amount

NOTEDER (9)
NUMBER NOT NULL,
NUMBER (9)
NOTEDER (9)
NUMBER (9)
NUMBER (9,2)
197
198
                             NUMBER NOT NULL ,
                            NUMBER (9) NOT NULL,
199
200
201 );
202 ALTER TABLE OP I ADD CONSTRAINT OP I PK PRIMARY KEY ( cod op ) ;
203 ALTER TABLE OP_I ADD CONSTRAINT OP_I_Office_FK FOREIGN KEY (
204 Office id bank, Office number ) REFERENCES Office ( Bank id,
205 office number ) ;
206 ALTER TABLE OP_I ADD CONSTRAINT OP_I_UN UNIQUE(Office_id_bank,
207 Office_number, check_number);
208 ALTER TABLE OP_I ADD CONSTRAINT FK_ASS_5 FOREIGN KEY ( cod_op )
209 REFERENCES Operation (cod op);
210
211 CREATE TABLE OP MCA
212 (
213 cod_op
                                       NUMBER (9) NOT NULL ,
214
                                     CHAR (1) ,
       "OwnerAsAc-AsAc id" INTEGER NOT NULL,
      CONSTRAINT ck_op_mca_join check (join in ('T', 'F'))
217 );
218 ALTER TABLE OP MCA ADD CONSTRAINT OP MCA PK PRIMARY KEY ( cod op )
220 ALTER TABLE OP MCA ADD CONSTRAINT "OP MCA OwnerAsAcAsAc FK"
221 FOREIGN KEY ( "OwnerAsAc-AsAc id" ) REFERENCES "OwnerAsAc-AsAc" (
223 ALTER TABLE OP MCA ADD CONSTRAINT FK ASS 4 FOREIGN KEY ( cod op )
224 REFERENCES Operation ( cod op ) ;
225
226 CREATE TABLE OP OI
227 (
    cod_op
228
                                       NUMBER (9) NOT NULL ,
      amount
229
                                       NUMBER (9,2) NOT NULL,
     periodicity
230
                                       VARCHAR2 (40) ,
231
       "OwnerAsAc-AsAc_id" INTEGER NOT NULL
232 );
233 ALTER TABLE OP_OI ADD CONSTRAINT OP_OI_PK PRIMARY KEY ( cod_op ) ;
234 ALTER TABLE OP_OI ADD CONSTRAINT "OP_OI_OwnerAsAcAsAc_FK" FOREIGN
235 KEY ( "OwnerAsAc-AsAc id" ) REFERENCES "OwnerAsAc-AsAc" ( id ) ;
```



```
236 ALTER TABLE OP OI ADD CONSTRAINT FK ASS 6 FOREIGN KEY ( cod op )
237 REFERENCES Operation ( cod op ) ;
238
239 CREATE TABLE OP OSRFI
240 (
                  NUMBER (9) NOT NULL ,
241 cod_op
242 contract_number NUMBER (10) NOT NULL ,
243 amount NUMBER (10,2) NOT NULL,
operation VARCHAR2 (20 CHAR),

Fund_id SMALLINT NOT NULL,

CONSTRAINT ck_oposrfi_oper CHECK (operation in
247 ('subscription', 'refund'))
249 ALTER TABLE OP OSRFI ADD CONSTRAINT OP OSRFI PK PRIMARY KEY (
250 cod op ) ;
251 ALTER TABLE OP OSRFI ADD CONSTRAINT OP OSRFI UN UNIQUE (
252 contract number ) ;
253 ALTER TABLE OP OSRFI ADD CONSTRAINT OP OSRFI Fund FK FOREIGN KEY (
254 Fund id ) REFERENCES Fund ( id ) ;
255 ALTER TABLE OP OSRFI ADD CONSTRAINT FK ASS 7 FOREIGN KEY ( cod op
256) REFERENCES Operation ( cod op );
257
258
259 CREATE TABLE Internet
260 (
261 id NUMBER NOT NULL,
262 IP CHAR (15) NOT NUL
263 conexion_begin DATE,
                        CHAR (15) NOT NULL ,
264
    conexion_end DATE ,
    OP_MCA_cod_op NUMBER (9) ,
265
266 OP_D_cod_op NUMBER (9),
267 OP_OI_cod_op NUMBER (9),
    OP_OSRFI_cod_op_NUMBER (9)
268
269 );
270 ALTER TABLE Internet ADD CONSTRAINT Internet PK PRIMARY KEY ( id )
   ALTER TABLE Internet ADD CONSTRAINT Internet OP D FK FOREIGN KEY (
   OP D cod op ) REFERENCES OP D ( cod op ) ;
   ALTER TABLE Internet ADD CONSTRAINT Internet OP MCA FK FOREIGN KEY
   ( OP MCA cod op ) REFERENCES OP MCA ( cod op ) ;
   ALTER TABLE Internet ADD CONSTRAINT Internet OP OI FK FOREIGN KEY
   ( OP OI cod op ) REFERENCES OP OI ( cod op ) ;
   ALTER TABLE Internet ADD CONSTRAINT Internet OP OSRFI FK FOREIGN
   KEY ( OP OSRFI cod op ) REFERENCES OP OSRFI ( cod op ) ;
   CREATE UNIQUE INDEX Internet IDX ON Internet
       OP OI cod op ASC
    CREATE UNIQUE INDEX Internet IDXv1 ON Internet
       OP_D_cod_op ASC
   CREATE UNIQUE INDEX Internet IDXv2 ON Internet
       OP MCA cod op ASC
```



```
)
CREATE UNIQUE INDEX Internet IDXv3 ON Internet
    OP OSRFI cod op ASC
CREATE TABLE Telephone
                    NUMBER NOT NULL ,
    telephone_number NUMBER NOT NULL ,
   "date" DATE NOT NULL,
operator NUMBER NOT NULL
                    NUMBER NOT NULL ,
    OP_MCA_cod_op NUMBER (9), OP_D_cod_op NUMBER (9),
    OP_OSRFI_cod_op NUMBER (9)
  ) ;
CREATE UNIQUE INDEX Telephone IDX ON Telephone
    OP D cod op ASC
CREATE UNIQUE INDEX Telephone IDXv1 ON Telephone
    OP_MCA_cod_op ASC
  )
CREATE UNIQUE INDEX Telephone IDXv2 ON Telephone
    OP_OSRFI_cod_op ASC
  )
ALTER TABLE Telephone ADD CONSTRAINT Telephone PK PRIMARY KEY ( id
ALTER TABLE Telephone ADD CONSTRAINT Telephone OP D FK FOREIGN KEY
( OP D cod op ) REFERENCES OP D ( cod op ) ;
ALTER TABLE Telephone ADD CONSTRAINT Telephone OP MCA FK FOREIGN
KEY ( OP MCA cod op ) REFERENCES OP MCA ( cod op ) ;
ALTER TABLE Telephone ADD CONSTRAINT Telephone OP OSRFI FK FOREIGN
KEY ( OP OSRFI cod op ) REFERENCES OP OSRFI ( cod op ) ;
```

Se ejecuta, se hace captura y se manda

