```
/* Question 1*/
SELECT firstName, lastName
FROM Customer
WHERE income > 80000
ORDER BY lastName, firstName

firstName            lastName
-------------------- --------------------
Ruby                 Barnes
Ronald               Bell
Philip               Brooks
Clarence             Brown
Dennis               Collins
Sharon               Collins
Jerry                Cook
Victor               Doom
Phillip              Edwards
Dennis               Flores
Diana                Gonzales
Joe                  Gonzalez
Christine            Gray
Sandra               Hayes
Antonio              Henderson
Deborah              Hernandez
Charles              Hill
Phyllis              Lopez
Helen                Morgan
Sean                 Nelson
Victor               Perez
Joe                  Sanders
Norma                Simmons
Susan                Smith
Roger                Turner
Juan                 Ward
Ryan                 Williams
Louise               Wilson

(28 row(s) affected)

/* Question 2*/
SELECT branchName, accNumber, balance
FROM Branch, Account
WHERE balance > 115000 AND
            budget > 2000000
ORDER BY branchName, accNumber


branchName           accNumber   balance
-------------------- ----------- ----------------------------------------
Latveria             1           133231.13
Latveria             8           121267.54
Latveria             9           132271.23
London               1           133231.13
London               8           121267.54
London               9           132271.23
New York             1           133231.13
New York             8           121267.54
New York             9           132271.23

(9 row(s) affected)
```

```sql
/* Question 3*/
SELECT DISTINCT C.firstName, C.lastName, C.income
FROM Customer C, Customer CS
WHERE C.income / 2 > ANY
            (SELECT Charles.income
             FROM Customer Charles
             WHERE Charles.firstName = 'Charles' AND
                        Charles.lastName = 'Smith')
ORDER BY lastName, firstName
```

```
firstName            lastName             income
-------------------- -------------------- -----------
Ronald               Bell                 91166
Clarence             Brown                95879
Sharon               Collins              99531
Jerry                Cook                 91174
Victor               Doom                 97412
Phillip              Edwards              99339
Diana                Gonzales             94777
Christine            Gray                 95821
Charles              Hill                 92397
Phyllis              Lopez                92919
Helen                Morgan               98442
Sean                 Nelson               96216
Joe                  Sanders              95144
Norma                Simmons              99902
Ryan                 Williams             95170
Louise               Wilson               96214

(16 row(s) affected)
```

```sql
/* Question 4*/
SELECT C1.customerID, C1.income, A1.accNumber, A1.branchNumber
FROM Customer C1, Account A1, Owns O1, Branch B1
WHERE C1.customerID = O1.customerID AND
            O1.accNumber = A1.accNumber AND
            A1.branchNumber = B1.branchNumber AND C1.customerID IN (
                        SELECT C2.customerID
                        FROM Customer C2, Account A2, Owns O2, Branch B2
                        WHERE C2.customerID = O2.customerID AND
                                    O2.accNumber = A2.accNumber AND
                                    A2.branchNumber = B2.branchNumber AND
                                    (B2.branchName = 'London' OR B2.branchName =
'Latveria'))
ORDER BY C1.customerID, A1.accNumber
```

```
customerID  income      accNumber   branchNumber
----------- ----------- ----------- ------------
10839       24386       15          1
10839       24386       296         4
11790       54011       1           1
11790       54011       24          1
11790       54011       150         3
11799       59593       174         2
13230       3300        137         1
13230       3300        202         2
13423       99902       87          1
```

13423	99902	246	4
13697	92397	38	1
13697	92397	147	3
13697	92397	251	4
13874	79613	47	3
13874	79613	82	5
13874	79613	232	2
16837	48819	41	3
16837	48819	187	2
16837	48819	197	2
16837	48819	212	2
18166	84562	34	1
18166	84562	204	2
19308	64499	82	5
19308	64499	234	2
19308	64499	260	5
19973	70028	140	1
20287	79481	196	2
20287	79481	222	2
20287	79481	241	2
22050	63333	19	1
22050	63333	221	2
25052	35755	154	3
25052	35755	169	2
25052	35755	171	2
25052	35755	172	2
25052	35755	290	4
25052	35755	297	4
27004	69842	29	1
27004	69842	33	1
27004	69842	70	3
27004	69842	96	3
27004	69842	271	5
27954	94777	10	1
27954	94777	68	3
27954	94777	239	2
28453	75146	89	1
28453	75146	173	2
28505	4293	5	1
29474	59360	60	3
29474	59360	85	1
29474	59360	293	4
30525	48963	125	1
30525	48963	201	2
30525	48963	270	5
30807	40753	57	3
30807	40753	91	2
30807	40753	119	1
30807	40753	156	3
30807	40753	231	2
33133	50640	216	2
33133	50640	263	5
33133	50640	295	4
33726	91174	132	1
33726	91174	243	4
33726	91174	287	4
33850	60404	204	2
33850	60404	256	4
33913	91166	7	1
33913	91166	260	5
34069	10630	27	1

34069	10630	118	1
34069	10630	177	2
34069	10630	218	2
35059	69037	111	1
35059	69037	213	2
35059	69037	227	2
35059	69037	264	5
35380	47079	24	1
35780	60731	217	2
35780	60731	288	4
36238	59759	240	2
37716	59925	142	1
37716	59925	186	2
38351	86093	39	1
38351	86093	95	3
38351	86093	158	3
38351	86093	189	2
38861	14132	3	1
38861	14132	228	2
38861	14132	248	4
38861	14132	294	4
40351	83395	123	1
40351	83395	126	1
40351	83395	139	1
41545	9534	32	1
41545	9534	51	3
41545	9534	102	4
41545	9534	252	4
41648	58007	135	1
42612	40840	182	2
42612	40840	225	2
43705	50159	192	2
43705	50159	236	2
44065	15296	109	1
44065	15296	193	2
44459	55740	2	1
44459	55740	104	5
44922	84560	17	1
44922	84560	56	3
44922	84560	133	1
44922	84560	188	2
44922	84560	206	2
44922	84560	279	4
45960	19411	28	1
46058	3622	110	1
46058	3622	245	4
46937	84262	9	1
47953	3254	48	3
47953	3254	115	1
47953	3254	293	4
49747	83907	142	1
49747	83907	153	3
50742	96214	76	3
50742	96214	77	3
50742	96214	107	1
50742	96214	272	5
51850	97412	35	1
51850	97412	129	1
51850	97412	161	3
51850	97412	182	2
52189	13615	6	1

52189	13615	53	3
52189	13615	62	3
52189	13615	79	3
52189	13615	249	4
52189	13615	290	4
55146	42893	83	1
55194	38549	93	2
57796	75896	99	3
57796	75896	208	2
59366	86045	26	1
59366	86045	36	1
59366	86045	54	3
59366	86045	57	3
59366	86045	64	3
59366	86045	148	3
59366	86045	152	3
60959	61289	205	2
61969	84174	144	1
61976	20893	167	3
61976	20893	235	2
61976	20893	265	5
62312	92919	61	3
62312	92919	116	1
62312	92919	219	2
62312	92919	261	5
63772	74194	90	2
63772	74194	134	1
63859	25995	113	1
63859	25995	291	4
64063	72382	167	3
64063	72382	200	2
65044	70455	117	1
65044	70455	179	2
65441	36915	124	1
65441	36915	181	2
65441	36915	252	4
65441	36915	269	5
66386	36786	112	1
66386	36786	229	2
66418	46486	8	1
66418	46486	278	4
67384	40043	37	1
67384	40043	65	3
67384	40043	223	2
67384	40043	234	2
69256	12945	123	1
69256	12945	131	1
69256	12945	151	3
69256	12945	185	2
72583	95879	130	1
73386	57935	31	1
73386	57935	66	3
73386	57935	94	2
73386	57935	253	4
73562	73556	127	1
73925	23250	63	3
73925	23250	143	1
73925	23250	184	2
75671	47899	63	3
75671	47899	194	2
76786	59788	170	2

77100	23477	101	4
77100	23477	190	2
77100	23477	230	2
77100	23477	253	4
78477	71601	9	1
78477	71601	49	3
78477	71601	164	3
79601	95144	26	1
79601	95144	52	3
79601	95144	75	3
79601	95144	110	1
79601	95144	165	3
80315	84919	16	1
80315	84919	128	1
80315	84919	199	2
80321	8431	121	1
80321	8431	146	3
81108	61312	56	3
81108	61312	92	2
81108	61312	121	1
81108	61312	207	2
81263	67275	4	1
81263	67275	73	3
81263	67275	98	3
81263	67275	122	1
81263	67275	157	3
81263	67275	195	2
81495	70247	203	2
82244	29009	59	3
82244	29009	84	1
82333	45443	103	4
82333	45443	178	2
82333	45443	266	5
82464	28953	86	1
83038	58767	237	2
83620	77423	138	1
83620	77423	259	5
84873	60586	18	1
84873	60586	141	1
84873	60586	162	3
84873	60586	191	2
85587	38385	87	1
85587	38385	184	2
85981	99531	209	2
86357	59137	23	1
86357	59137	81	4
86357	59137	86	1
87416	68812	21	1
87822	2333	149	3
87822	2333	175	2
87822	2333	275	5
87822	2333	277	5
87978	38594	20	1
87978	38594	50	3
87978	38594	285	4
88164	30640	120	1
88164	30640	220	2
88375	67895	13	1
88375	67895	22	1
88375	67895	43	3
88375	67895	286	4

89197	28761	136	1
89197	28761	176	2
89197	28761	292	4
89902	89692	4	1
89902	89692	48	3
89902	89692	78	3
89902	89692	211	2
90649	98442	14	1
90649	98442	247	4
90649	98442	258	5
90667	19534	30	1
90667	19534	97	3
90667	19534	226	2
90667	19534	233	2
90667	19534	267	5
90798	32312	13	1
90798	32312	57	3
90798	32312	146	3
91349	76164	198	2
91520	35711	183	2
91520	35711	276	5
91672	73689	8	1
91672	73689	215	2
92389	12525	72	3
92389	12525	100	4
92389	12525	105	5
92389	12525	193	2
92389	12525	262	5
92389	12525	268	5
92389	12525	280	4
93300	69198	80	2
93300	69198	166	3
93300	69198	224	2
93300	69198	298	4
93791	68832	44	3
93791	68832	46	3
93791	68832	155	3
93791	68832	238	2
93995	10867	159	3
93995	10867	180	2
93995	10867	244	4
96475	96216	25	1
96712	65555	42	3
96712	65555	168	2
96712	65555	210	2
96712	65555	214	2
97216	89746	88	1
97216	89746	108	1
98826	77570	12	1
98826	77570	114	1
98923	51381	40	1
98923	51381	163	3
99537	90211	11	1
99537	90211	100	4
99537	90211	243	4
99537	90211	274	5
99537	90211	281	4

(310 row(s) affected)

```
/* Question 5*/
SELECT C.customerID, A1.type, A1.accNumber, A1.balance
FROM Customer C, Owns O1, Account A1,
Owns O2, Account A2
WHERE C.customerID = O1.customerID AND
O1.customerID = O2.customerID AND
O1.accNumber = A1.accNumber AND
O2.accNumber = A2.accNumber AND
A1.type = 'bus' AND
A2.type = 'sav'
UNION
SELECT C.customerID, A2.type, A2.accNumber, A2.balance
FROM Customer C, Owns O1, Account A1,
Owns O2, Account A2
WHERE C.customerID = O1.customerID AND
O1.customerID = O2.customerID AND
O1.accNumber = A1.accNumber AND
O2.accNumber = A2.accNumber AND
A1.type = 'bus' AND
A2.type = 'sav'
ORDER BY C.customerID, A1.type, A1.accNumber
```

```
customerID   type accNumber   balance
-----------  ---- ----------- ---------------------------------------
11790        BUS  150         77477.04
11790        SAV  1           133231.13
14295        BUS  106         102297.76
14295        BUS  273         65213.27
14295        SAV  245         95413.18
19308        BUS  234         35041.68
19308        SAV  82          29525.31
19308        SAV  260         55607.43
22050        BUS  221         105068.53
22050        SAV  19          83432.52
25052        BUS  290         87236.94
25052        BUS  297         77378.21
25052        SAV  171         94194.62
25159        BUS  242         31705.31
25159        SAV  270         24148.47
27004        BUS  271         43452.71
27004        SAV  70          33716.29
27004        SAV  96          37055.15
27954        BUS  10          72667.44
27954        SAV  68          37748.82
28453        BUS  173         15923.34
28453        SAV  89          97457.14
30807        BUS  91          62531.41
30807        SAV  156         41520.57
32422        BUS  254         63839.93
32422        SAV  282         101063.84
35059        BUS  264         56998.05
35059        SAV  213         41508.56
38861        BUS  294         36864.46
38861        SAV  228         77031.07
38861        SAV  248         65919.35
41545        BUS  51          45793.34
41545        SAV  32          83408.19
43705        BUS  236         23084.55
43705        SAV  192         19162.66
46630        BUS  255         29913.60
```

```
46630      SAV   160        87925.09
47953      BUS   115        102857.55
47953      SAV   48         63416.35
51850      BUS   129        35668.54
51850      SAV   35         77214.48
52189      BUS   249        83863.10
52189      BUS   290        87236.94
52189      SAV   53         49101.06
59366      BUS   36         65482.68
59366      SAV   26         112046.36
59366      SAV   64         87815.69
59366      SAV   152        31858.67
61976      BUS   167        20965.26
61976      SAV   235        44741.90
62312      BUS   116        34798.47
62312      BUS   219        29672.22
62312      SAV   261        55402.81
65044      BUS   179        42494.67
65044      SAV   117        14203.10
65441      BUS   124        11732.87
65441      BUS   269        79912.41
65441      SAV   181        24453.37
66418      BUS   8          121267.54
66418      SAV   278        48434.80
67384      BUS   234        35041.68
67384      SAV   37         9421.53
67384      SAV   223        41345.93
73925      BUS   63         57035.26
73925      SAV   143        27480.19
75671      BUS   63         57035.26
75671      SAV   194        92152.03
80315      BUS   16         75390.64
80315      BUS   199        87161.89
80315      SAV   128        73129.43
81108      BUS   92         71552.54
81108      SAV   121        103512.78
81263      BUS   4          106503.60
81263      SAV   98         69297.68
82333      BUS   178        16105.24
82333      SAV   103        90491.84
87822      BUS   175        70997.62
87822      SAV   275        95955.98
89902      BUS   4          106503.60
89902      SAV   48         63416.35
89902      SAV   78         72742.21
90667      BUS   267        24588.13
90667      SAV   97         11797.34
93300      BUS   80         13574.85
93300      BUS   166        65453.56
93300      SAV   224        61398.87
93300      SAV   298        92525.41
93791      BUS   238        46680.50
93791      SAV   44         69658.25
93791      SAV   155        55474.05
98826      BUS   114        67973.27
98826      SAV   12         77626.76

(92 row(s) affected)
```

```sql
/* Question 6*/
SELECT DISTINCT E.sin, B.branchName, E.salary, E.salary - M.salary AS
employee_salary_minus_manager_salary
FROM Employee E, Employee M, Branch B
WHERE E.branchNumber = B.branchNumber AND M.sin IN
            (SELECT B2.managerSIN
             FROM Branch B2
             WHERE E.branchNumber = M.branchNumber)
ORDER BY employee_salary_minus_manager_salary DESC
```

sin	branchName	salary	employee_salary_minus_manager_salary
95246	Latveria	98773	11531
23528	New York	94974	4491
11285	New York	93779	3296
31964	New York	90483	0
51850	Latveria	87242	0
55700	London	99289	0
63963	Moscow	71284	0
99537	Berlin	90211	0
81126	Moscow	71185	-99
86213	Latveria	85853	-1389
38351	New York	86093	-4390
97216	London	89746	-9543
40900	New York	77533	-12950
63772	Latveria	74194	-13048
58707	London	85934	-13355
57796	New York	75896	-14587
79510	London	84199	-15090
44459	Moscow	55740	-15544
33743	Berlin	70396	-19815
98119	Latveria	66863	-20379
30513	London	78839	-20450
27004	New York	69842	-20641
81263	New York	67275	-23208
28453	London	75146	-24143
68383	Berlin	65722	-24489
81108	Latveria	61312	-25930
68006	London	73264	-26025
17301	Moscow	45103	-26181
14295	Moscow	44495	-26789
60822	Latveria	59709	-27533
52020	Moscow	43128	-28156
73386	Latveria	57935	-29307
42182	New York	60059	-30424
95429	Berlin	51003	-39208
29474	London	59360	-39929
59653	New York	49066	-41417
82333	Berlin	45443	-44768
92400	New York	44853	-45630
30807	Latveria	40753	-46489
48264	London	52031	-47258
55194	Latveria	38549	-48693
34532	Latveria	35173	-52069
14209	New York	36784	-53699
55146	London	42893	-56396
86032	London	42301	-56988
15153	Berlin	32204	-58007
24901	New York	32470	-58013
45676	London	41201	-58088

```
92389        Moscow              12525        -58759
58844        Berlin              30403        -59808
11185        London              39466        -59823
81302        Berlin              29426        -60785
85587        London              38385        -60904
11499        Berlin              27769        -62442
79162        New York            27531        -62952
82495        London              35868        -63421
70163        Berlin              25389        -64822
82076        New York            25328        -65155
76576        Berlin              23540        -66671
77100        Berlin              23477        -66734
97976        London              32400        -66889
96443        Berlin              19971        -70240
82244        London              29009        -70280
82464        London              28953        -70336
90667        New York            19534        -70949
90368        New York            19403        -71080
17323        Latveria            14018        -73224
24065        London              25870        -73419
25902        New York            14334        -76149
37490        London              23082        -76207
71076        New York            13393        -77090
91712        Latveria            9491         -77751
93942        New York            12065        -78418
78993        New York            10953        -79530
41545        Berlin              9534         -80677
49069        Berlin              7600         -82611
85925        London              15370        -83919
24469        London              13950        -85339
49024        Berlin              3349         -86862

(79 row(s) affected)
```

```sql
/* Question 7*/
SELECT O1.customerID
FROM Owns O1, Account A1, Branch B1
WHERE A1.accNumber = O1.accNumber AND
            A1.branchNumber = B1.branchNumber AND
            B1.branchName = 'Berlin'
EXCEPT
SELECT O2.customerID
FROM Owns O2, Account A2, Branch B2
WHERE A2.accNumber = O2.accNumber AND
            A2.branchNumber = B2.branchNumber AND
            B2.branchName = 'London'
ORDER BY O1.customerID
```

```
customerID
-----------
14295
23010
25052
25159
30622
32422
33133
33850
35780
```

```
38003
46630
64055
77100
82333
86858
92389
93300
93995

(18 row(s) affected)


/* Question 8*/
SELECT E.sin, E.lastName, E.salary, B.branchName FROM Employee E
LEFT OUTER JOIN Branch B ON E.sin = B.managerSIN
WHERE salary > 80000
ORDER BY E.salary DESC

sin          lastName               salary        branchName
-----------  ---------------------  ------------  ---------------------
55700        Edwards                99289         London
95246        Garcia                 98773         NULL
23528        Russell                94974         NULL
11285        Simmons                93779         NULL
31964        Doom                   90483         New York
99537        Hernandez              90211         Berlin
97216        Collins                89746         NULL
51850        Doom                   87242         Latveria
38351        Perez                  86093         NULL
58707        Watson                 85934         NULL
86213        Martinez               85853         NULL
79510        Hernandez              84199         NULL

(12 row(s) affected)


/* Question 9*/
SELECT E1.sin, E1.lastName, E1.salary, B.branchName
FROM Employee E1, Branch B
WHERE salary > 80000 AND E1.sin = B.managerSIN
UNION
SELECT E2.sin, E2.lastName, E2.salary, NULL
FROM Employee E2, Branch B2
WHERE salary > 80000 AND E2.sin NOT IN (SELECT B3.managerSIN
                       FROM Branch B3)
ORDER BY E1.salary DESC

sin          lastName               salary        branchName
-----------  ---------------------  ------------  ---------------------
55700        Edwards                99289         London
95246        Garcia                 98773         NULL
23528        Russell                94974         NULL
11285        Simmons                93779         NULL
31964        Doom                   90483         New York
99537        Hernandez              90211         Berlin
97216        Collins                89746         NULL
51850        Doom                   87242         Latveria
38351        Perez                  86093         NULL
58707        Watson                 85934         NULL
```

```
86213          Martinez                85853          NULL
79510          Hernandez               84199          NULL

(12 row(s) affected)


/* Question 10*/
SELECT DISTINCT C.customerID, C.lastName, C.birthDate
FROM Customer C, Owns O, Account A
WHERE C.customerID = O.customerID AND
            O.accNumber = A.accNumber AND
            A.branchNumber = ANY (SELECT A3.branchNumber
                                      FROM Customer C3, Owns O3, Account A3
                                      WHERE C3.firstName = 'Adam' AND C3.lastName =
                                      'Rivera' AND C3.customerID = O3.customerID
                                      AND O3.accNumber = A3.accNumber)

UNION
SELECT DISTINCT C.customerID , C.lastName, C.birthDate
FROM Customer C, Owns O, Account A
WHERE C.customerID = O.customerID AND
            O.accNumber = A.accNumber AND
            A.branchNumber = ANY (SELECT A3.branchNumber
            FROM Customer C3, Owns O3, Account A3
            WHERE C3.firstName = 'Adam' AND C3.lastName = 'Rivera' AND C3.customerID =
            O3.customerID AND O3.accNumber = A3.accNumber)
ORDER BY C.customerID

customerID  lastName             birthDate
----------- -------------------- ----------
10839       Hayes                1977-06-09
11790       Green                1920-11-19
13230       Brooks               1967-05-04
13423       Simmons              1955-03-21
13697       Hill                 1951-03-07
14295       Ramirez              1983-06-30
18166       Barnes               1951-03-07
19973       Kelly                1987-07-15
22050       Sanchez              1935-01-08
23010       Young                1985-07-07
25052       Anderson             1960-04-08
25159       Brooks               1964-04-23
27004       Johnson              1985-07-07
27954       Gonzales             1995-08-12
28453       White                1961-04-12
28505       Cook                 1918-11-12
29474       White                1963-04-19
30525       Carter               1987-07-15
30622       Murphy               1951-03-07
30807       Morris               1941-01-30
32422       Gray                 1969-05-11
33133       Barnes               1965-04-26
33726       Cook                 1979-06-16
33850       Ward                 1918-11-12
33913       Bell                 1973-05-25
34069       Lee                  1974-05-29
35059       Murphy               1968-05-07
35380       Clark                1927-12-15
35780       Young                1950-03-03
37716       Scott                1931-12-30
```

38003	Griffin	1940-01-27
38351	Perez	1945-02-13
38861	James	1936-01-13
40351	Hayes	1977-06-09
41545	Bailey	1968-05-07
41648	Clark	1948-02-25
44065	Ramirez	1975-06-01
44459	Watson	1954-03-18
44922	Flores	1953-03-14
45960	Long	1978-06-12
46058	Rivera	1944-02-11
46630	Coleman	1963-04-19
46937	Ward	1937-01-16
47953	Martinez	1985-07-07
49747	Brooks	1944-02-11
50742	Wilson	1920-11-19
51850	Doom	1942-02-03
52189	Sanders	1917-11-08
55146	Jackson	1991-07-29
59366	Smith	1981-06-23
61969	Henderson	1992-08-02
62312	Lopez	1974-05-29
63772	Powell	1975-06-01
63859	Young	1981-06-23
64055	Barnes	1990-07-25
65044	Hill	1978-06-12
65441	Thompson	1917-11-08
66386	Henderson	1965-04-26
66418	Adams	1993-08-05
67384	Brooks	1961-04-12
69256	Thomas	1941-01-30
72583	Brown	1944-02-11
73386	Jones	1966-04-30
73562	Stewart	1976-06-05
73925	Powell	1930-12-25
77100	Alexander	1979-06-16
78477	Gray	1944-02-11
79601	Sanders	1939-01-23
80315	Turner	1966-04-30
80321	Kelly	1948-02-25
81108	Jones	1954-03-18
81263	Cooper	1950-03-03
82244	Wright	1967-05-04
82333	Smith	1963-04-19
82464	Hayes	1965-04-26
83620	Clark	1920-11-19
84873	Parker	1942-02-03
85587	Mitchell	1993-08-05
86357	Evans	1948-02-25
86858	Alexander	1926-12-11
87416	Griffin	1937-01-16
87978	Gonzalez	1964-04-23
88164	Parker	1970-05-14
88375	Mitchell	1975-06-01
89197	Anderson	1994-08-09
89902	Gonzalez	1974-05-29
90649	Morgan	1942-02-03
90667	Murphy	1976-06-05
90798	Wilson	1943-02-06
91672	Green	1941-01-30
92389	Ross	1959-04-05

```
93300        Johnson              1980-06-19
93995        Morris               1956-03-25
96475        Nelson               1934-01-05
97216        Collins              1977-06-09
98826        Adams                1947-02-21
98923        Reed                 1979-06-16
99537        Hernandez            1992-08-02

(98 row(s) affected)
```

```sql
/* Question 11*/
SELECT E1.sin, E1.firstName, E1.lastName, E1.salary
FROM Employee E1, Branch B
WHERE E1.branchNumber = B.branchNumber AND
          B.branchName = 'Berlin' AND
          E1.salary = (SELECT MAX (E2.salary)
                                   FROM Employee E2
                                   WHERE E2.branchNumber = B.branchNumber AND
                                         B.branchName = 'Berlin')
ORDER BY sin
```

```
sin         firstName            lastName             salary
----------- -------------------- -------------------- -----------
99537       Deborah              Hernandez            90211

(1 row(s) affected)
```

```sql
/* Question 12*/
SELECT SUM (E.salary) AS sum_salary
FROM Employee E, Branch B
WHERE E.branchNumber = B.branchNumber AND
          B.branchName = 'Latveria'
```

```
sum_salary
-----------
729865

(1 row(s) affected)
```

```sql
/* Question 13*/
SELECT COUNT (DISTINCT firstName) AS distinct_firstNames, COUNT (sin) AS employee_count
FROM Employee E, Branch B
WHERE E.branchNumber = B.branchNumber AND
          B.branchName = 'London'
```

```
distinct_firstNames employee_count
------------------- --------------
20                  22

(1 row(s) affected)
```

```sql
/* Question 14*/
SELECT B.branchName, MIN (E.salary) AS min_salary, MAX (E.salary) AS max_salary, AVG
(E.salary) AS average_salary
FROM Branch B, Employee E
```

```sql
WHERE B.branchNumber = E.branchNumber
GROUP BY B.branchName
ORDER BY branchName
```

```
branchName           min_salary   max_salary   average_salary
-------------------- -----------  -----------  --------------
Berlin               3349         90211        34714
Latveria             9491         98773        56143
London               13950        99289        50298
Moscow               12525        71284        49065
New York             10953        94974        48649

(5 row(s) affected)
```

```sql
/* Question 15*/
SELECT C.customerID, C.firstName, C.lastName
FROM Customer C, Owns O
WHERE C.customerID = O.customerID
GROUP BY C.customerID, C.firstName, C.lastName
HAVING COUNT (O.customerID) >= 2
ORDER BY C.customerID
```

```
customerID  firstName            lastName
----------- -------------------- --------------------
10839       Amy                  Hayes
11790       Benjamin             Green
13230       Marie                Brooks
13423       Norma                Simmons
13697       Charles              Hill
13874       Jimmy                Cooper
14295       Anne                 Ramirez
16837       Stephen              Hughes
18166       Ruby                 Barnes
19308       Mildred              Reed
20287       Eugene               Thomas
22050       Helen                Sanchez
25052       Jack                 Anderson
25159       Shirley              Brooks
27004       Steven               Johnson
27954       Diana                Gonzales
28453       Margaret             White
29474       Amanda               White
30525       Helen                Carter
30622       Harry                Murphy
30807       Roy                  Morris
32422       Christine            Gray
33133       Henry                Barnes
33726       Jerry                Cook
33850       Henry                Ward
33913       Ronald               Bell
34069       Earl                 Lee
35059       Larry                Murphy
35780       Harold               Young
37716       Annie                Scott
38351       Victor               Perez
38861       Gerald               James
40351       Sandra               Hayes
41545       Terry                Bailey
42612       Joe                  Kelly
```

43705	Louis	Bell
44065	Benjamin	Ramirez
44459	Gerald	Watson
44922	Dennis	Flores
46058	Adam	Rivera
46630	Billy	Coleman
47953	Frank	Martinez
49747	Philip	Brooks
50742	Louise	Wilson
51850	Victor	Doom
52189	Shawn	Sanders
52622	Maria	Morgan
57796	Ernest	Adams
59366	Susan	Smith
61976	Wanda	Parker
62312	Phyllis	Lopez
63772	Mary	Powell
63859	Maria	Young
64063	Mark	Coleman
65044	Deborah	Hill
65441	Arthur	Thompson
66386	Chris	Henderson
66418	Stephanie	Adams
67384	Lawrence	Brooks
69101	Ernest	Perez
69256	Jacqueline	Thomas
73386	Arthur	Jones
73925	Doris	Powell
75671	Billy	Jones
77100	Laura	Alexander
78477	Brian	Gray
79601	Joe	Sanders
80315	Roger	Turner
80321	Kimberly	Kelly
81108	Willie	Jones
81263	Anna	Cooper
82244	Douglas	Wright
82333	Charles	Smith
83620	Carlos	Clark
84873	Cheryl	Parker
85587	Justin	Mitchell
86357	Andrew	Evans
87822	Dennis	Long
87978	Christopher	Gonzalez
88164	Jimmy	Parker
88375	Randy	Mitchell
89197	Lawrence	Anderson
89902	Joe	Gonzalez
90649	Helen	Morgan
90667	Carl	Murphy
90798	Aaron	Wilson
91520	Keith	Rivera
91672	Edward	Green
92389	Amy	Ross
93300	Bonnie	Johnson
93791	Evelyn	Scott
93995	Kevin	Morris
96712	Kimberly	Powell
97216	Dennis	Collins
98826	William	Adams
98923	Dennis	Reed

```
99537        Deborah              Hernandez

(97 row(s) affected)


/* Question 16*/
SELECT AVG (C1.income) AS average_income_of_customer_older_than_50, AVG (C2.income) AS
average_income_of_customer_younger_than_50
FROM Customer C1, Customer C2
WHERE DATEADD(YEAR, +50, C1.birthDate) > CONVERT (date, GETDATE()) AND DATEADD(YEAR, +50,
C2.birthDate) < CONVERT (date, GETDATE())

average_income_of_customer_older_than_50 average_income_of_customer_younger_than_50
---------------------------------------- ------------------------------------------
55291                                    53781

(1 row(s) affected)

/* Question 17*/
SELECT C1.customerID, C1.lastName, C1.firstName, C1.income, AVG (A1.balance) AS
average_balance
FROM Customer C1, Owns O1, Account A1
WHERE (C1.lastName LIKE 'Jo%s%' OR C1.firstName LIKE 'A%[AEIOU]_') AND C1.customerID =
O1.customerID AND O1.customerID IN
            (SELECT O2.customerID
                 FROM Owns O2
                 GROUP BY O2.customerID
                 HAVING COUNT (O2.customerID) >= 3) AND
            O1.accNumber = A1.accNumber
GROUP BY C1.customerID, C1.lastName, C1.firstName, C1.income
ORDER BY C1.customerID

customerID  lastName            firstName           income      average_balance
----------- ------------------- ------------------- ----------- ---------------------------
27004       Johnson             Steven              69842       54991.128000
65441       Thompson            Arthur              36915       52657.170000
73386       Jones               Arthur              57935       75060.147500
81108       Jones               Willie              61312       82408.210000
86357       Evans               Andrew              59137       81508.083333
90798       Wilson              Aaron               32312       96964.883333
93300       Johnson             Bonnie              69198       58238.172500

(7 row(s) affected)

/* Question 18*/
SELECT A.accNumber, A.balance, SUM (T.amount) AS sum_transaction_amounts, (A.balance -
SUM (T.amount)) AS balance_subtract_sum_transaction_amounts
FROM Account A, Transactions T, Branch B
WHERE A.accNumber = T.accNumber AND A.branchNumber = B.branchNumber AND B.branchName =
'New York'
GROUP BY A.accNumber, A.balance
HAVING COUNT (T.accNumber) >= 10
ORDER BY A.accNumber

accNumber   balance    sum_transaction_amounts         balance_subtract_sum_transaction_amounts
----------- ---------- ------------------------------- ------------------------------------- --
46          30235.92          30235.92                                0.00
53          49101.06          49101.06                                0.00
59          112534.31         112534.31                               0.00
```

```
60              53485.04                    53485.04                                        0.00
70              33716.29                    33716.29                                        0.00
72              59597.18                    59597.18                                        0.00
74              70301.55                    70301.55                                        0.00
96              37055.15                    37055.15                                        0.00
146             95876.24                    95876.24                                        0.00
147             114094.94                   114094.94                                       0.00
148             100187.85                   100187.85                                       0.00
150             77477.04                    77477.04                                        0.00
152             31858.67                    31858.67                                        0.00
153             50791.28                    50791.28                                        0.00
154             66605.48                    66605.48                                        0.00
157             73162.44                    73162.44                                        0.00
160             87925.09                    87925.09                                        0.00
165             108042.83                   108042.83                                       0.00

(18 row(s) affected)
```

```sql
/* Question 19*/
SELECT B.branchName, A.type, AVG (T.amount) AS average_transaction_amount
FROM Branch B, Account A, Transactions T
WHERE A.branchNumber = B.branchNumber AND T.accNumber = A.accNumber
GROUP BY B.branchName, A.type
HAVING COUNT (A.type) >= 50
ORDER BY B.branchName, A.type
```

```
branchName            type    average_transaction_amount
--------------------  ----    --------------------------------------
Berlin                BUS     6735.927764
Berlin                CHQ     7322.434751
Berlin                SAV     6501.198357
Latveria              BUS     6323.264077
Latveria              CHQ     6950.850576
Latveria              SAV     6925.273670
London                BUS     9334.790548
London                CHQ     8884.808439
London                SAV     8128.167256
Moscow                BUS     6534.426842
Moscow                CHQ     6754.225000
Moscow                SAV     5855.061973
New York              BUS     7533.197088
New York              CHQ     7541.038226
New York              SAV     5932.801875

(15 row(s) affected)
```

```sql
/* Question 20*/

/* Question 20*/
SELECT DISTINCT B1.branchName, A1.type, A1.accNumber, T1.transNumber, T1.amount
FROM Branch B1, Account A1, Transactions T1
WHERE EXISTS (SELECT A2.type, AVG (T2.amount) as type_average FROM Account A2,
Transactions T2 WHERE EXISTS
        (SELECT A3.accNumber, AVG (T3.amount) as account_average
                FROM Account A3, Transactions T3
                WHERE A3.accNumber = T3.accNumber
                GROUP BY A3.accNumber
```

```sql
                HAVING AVG(T2.amount) > 3* AVG(T3.amount) )
        GROUP BY A2.type)

ORDER BY B1.branchName, A1.type, A1.accNumber, T1.transNumber
```