

Social Amelioration Program (SAP) Management System

Faculty of the College of Computer and Information Sciences,
Polytechnic University of the Philippines, Sta. Mesa, Manila

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COMP 20093 – Information Management

Presented by:
Cabana, Lance Chrysler M.
Santillan, Rhona Kaye S.

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BACKGROUND / OVERVIEW


With the risks in health, safety, security, and life of the citizens brought by the pandemic in the Philippines – Coronavirus (COVID-19) and its variants – Enhanced Community Quarantine (ECQ) has been implemented as a measure to battle the situation. But the ECQ is also a threat to workers and other economic activities of the country. To address the needs of its people, the government agencies and other private sectors (inter-agency measures) join forces in a Social Amelioration Program (SAP). The SAP is the list of assistance provided by national agencies such as the Department of Social Welfare and Development (DSWD), Department of Labor and Employment (DOLE), Department of Trade and Industry (DTI), Department of Agriculture (DA), Department of Finance (DOF), Department of Budget and Management (DBM), and Department of Interior and Local Government (DILG). The assistance given by DSWD under SAP is cash assistance known as the Emergency Subsidy Program (ESP) that ranges from PHP 5,000 to PHP 8,000 depending on a region's minimum wage.

The Social Amelioration Card (SAC) form is a form with a barcode and serial number distributed to barangays to get profiles of families. It also helps monitor the cash assistance provided under the SAP-ESP. The SAC forms are given to qualified families as identified by DSWD and the local government units (LGUs). These are families with low-income or with member/s in either informal economy workers or the vulnerable sector – senior citizen, pregnant, lactating women, persons with disability (PWD), solo parent, and homeless.

The City/Municipal Social Welfare and Development Office (C/MSWDO) representative will gather personal information and require all beneficiaries to bring one valid ID per family head. All information will only use by the authority as a basis for easy distribution of money in accordance with RA 10173 or Data Privacy Act. The assistance will be given directly to the beneficiaries. In case the Head of the family is not available, the first two members of the family (i.e. FM001 or FM002) can serve as the representative to receive.

The records gathered by the SAC forms help monitor the assistance given to the beneficiaries. The dates and even the amount were listed for easy tracking of funds and resources distributed. Since these records are valuable in SAP – where collaborating national agencies are involved, detailed and well-structured files are efficiently developed.

INPUT FORM



Social Amelioration Card (SAC)

(Sumulat gamit ang MALALAKING TITIK)

PUNO NG PAMILYA (Kasalukuyan)

Pangalan: _____

Tirahan: _____ Kalye: _____

Barangay: _____ Lungsod/Bayan: _____

Probinsya: _____ Rehiyon: _____

Trabaho: _____ Buwanang Kita: _____

Pinagtatrabahuhan at Lugar: _____ Sektor: _____ Kondisyon ng Kalusugan: _____

☐ Benepisyaryo ng UCT
 ☐ Benepisyaryo ng 4Ps
 ☐ Katutubo (Grupo) _____
 ☐ Others _____

KOPYA NG BENEPISYARYO

Kasarian: ☐ Lalaki ☐ Babae

Uri ng ID: _____

Numero ng ID: _____

Petsa ng Kapanganakan: _____ mm-dd-yyyy

Cellphone No: _____

Miyembro ng Pamilya (Apelyido, Pangalan, Gitnang Pangalan)	Relasyon sa Puno ng Pamilya	Petsa ng Kapanganakan (mm/dd/yyyy)	Kasarian (M/F)	Trabaho	Sektor (A-F)	Kondisyon ng Kalusugan (1-5)

Paalala: Ang unang dalawang miyembro na nakalista ay magsisilbing alternatibong kinatawan ng inyong pamilya.

Sektor: A-Nakakatanda B-Buntis C-Nagpapasusong Ina

D-PWD E-Solo Parent F-Walang Tirahan

Kondisyon ng Kalusugan:

1 - Sakit sa Puso 2 - Altapresyon

3 - Sakit sa Baga 4 - Diyabetis 5 - Kanser

"Pinapatotohanan ko na ang lahat ng mga impormasyong nasusulat dito ay tama at pawang katotohanan lamang. Batid ko na ako ay maaaring makulong sakaling mayroong kahit isang impormasyon na hindi totoo o 'di kaya'y sadyang hindi ko ibinunyag."

Lagda/Thumbmark ng Puno ng Pamilya

Pangalan at Lagda ng Punong Barangay

Petsa ng Pagrehistro


Pangalan at Lagda ng LSWDO

Dapat sagutan ng Opisyal ng Barangay:

Assistance to Individuals in Crisis Situation (AICS)

Oo ☐

Hindi ☐



PH-COVID-133901000-000001

Figure 1. Social Amelioration Card (SAC) Form – 1st Page

NORMALIZATION

Unnormalized Form (UNF)

SOCIAL AMELIORATION CARD FORM (FamNo, Name, Address, City, Province, Region, Work, Sector, HealthCond, Sex, Birthdate, Role, Relation, IDNo, IDType, Income, PhoneNo, UCTBeneficiary, 4PsBeneficiary, IndigenousGroup)

FamNo	Name	Address	City	Province	Region	Work	Sector	HealthCond	Sex	Birthdate	Role
1	Maria Rosa S. Relox	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Sewer	E	null	F	05/05/1962	H
2	Ronaldo S. Relox	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Civil Engineer	null	null	M	01/05/1995	M
3	Rolando S. Relox	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Student	null	null	M	10/20/2000	M
4	Reynaldo S. Relox	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Student	null	4	M	01/06/2007	M
5	Arnaldo S. Relox Jr.	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Student	null	null	M	11/11/2011	M
6	Steven T. Romero	10315 Gomez St. Brgy. Bacuyangan	Hinoba-an	Negros Occidental	VI	Bus Driver	null	1	M	06/01/1982	H
7	Arlene P. Romero	10315 Gomez St. Brgy. Bacuyangan	Hinoba-an	Negros Occidental	VI	Housewife	null	null	F	09/07/1981	M
8	Marites P. Romero	10315 Gomez St. Brgy. Bacuyangan	Hinoba-an	Negros Occidental	VI	Call Center Agent	C,E	null	F	06/26/1999	M
9	Dave P. Romero	10315 Gomez St. Brgy. Bacuyangan	Hinoba-an	Negros Occidental	VI	Student	null	null	M	07/09/2005	M
10	Dominador H. Vargas	Blk 2 Lot 9 San Isidro Village	Cabuyao	Laguna	IV-A	null	A	2	M	07/22/1947	H
11	Tessa G.Vargas	Blk 2 Lot 9 San Isidro Village	Cabuyao	Laguna	IV-A	null	A	2	F	11/19/1949	M

Relation	IDNo	IDType	Income	WorkAdd	PhoneNo	UCTBeneficiary	4PsBeneficiary	IndigenousGroup
null	2302-0504A-Z6523CC1999	Voter's ID	1,500	House	09162398000	N	N	null
Son								
Son								
Son								
Son								
null	D01-42-98765	Driver Licence	10,000	Kabankalan, Negros Occidental	09498722033	N	N	null
Wife								
Daughter								
Son								
null	9512	Senior Citizen ID	null	null	09663987123	N	Y	null
Wife								

Figure 2.1 Unnormalized Form (UNF) of Social Amelioration Card Form Table

1st Normalized Form (1NF)

SOCIAL AMELIORATION CARD FORM (**FamNo**, Name, Address, City, Province, Region, Work, Sector, HealthCond, Sex, Birthdate, Role, Relation, IDNo, IDType, Income, PhoneNo, UCTBeneficiary, 4PsBeneficiary, IndigenousGroup)

PK											
FamNo	Name	Address	City	Province	Region	Work	Sector	HealthCond	Sex	Birthdate	Role
1	Maria Rosa S. Relox	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Sewer	E	null	F	05/05/1962	H
2	Ronaldo S. Relox	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Civil Engineer	null	null	M	01/05/1995	M
3	Rolando S. Relox	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Student	null	null	M	10/20/2000	M
4	Reynaldo S. Relox	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Student	null	4	M	01/06/2007	M
5	Arnaldo S. Relox Jr.	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Student	null	null	M	11/11/2011	M
6	Steven T. Romero	10315 Gomez St. Brgy. Bacuyangan	Hinoba-an	Negros Occidental	VI	Bus Driver	null	1	M	06/01/1982	H
7	Arlene P. Romero	10315 Gomez St. Brgy. Bacuyangan	Hinoba-an	Negros Occidental	VI	Housewife	null	null	F	09/07/1981	M
8	Marites P. Romero	10315 Gomez St. Brgy. Bacuyangan	Hinoba-an	Negros Occidental	VI	Call Center Agent	C,E	null	F	06/26/1999	M
9	Dave P. Romero	10315 Gomez St. Brgy. Bacuyangan	Hinoba-an	Negros Occidental	VI	Student	null	null	M	07/09/2005	M
10	Dominador H. Vargas	Blk 2 Lot 9 San Isidro Village	Cabuyao	Laguna	IV-A	null	A	2	M	07/22/1947	H
11	Tessa G. Vargas	Blk 2 Lot 9 San Isidro Village	Cabuyao	Laguna	IV-A	null	A	2	F	11/19/1949	M

FD								
Relation	IDNo	IDType	Income	WorkAdd	PhoneNo	UCTBeneficiary	4PsBeneficiary	IndigenousGroup
null	2302-0504A-Z6523CC1999	Voter's ID	1,500	House	09162398000	N	N	null
Son								
Son								
Son								
Son								
null	D01-42-98765	Driver Licence	10,000	Kabankalan, Negros Occidental	09498722033	N	N	null
Wife								
Daughter								
Son								
null	9512	Senior Citizen ID		null	09663987123	N	Y	null
Wife								

Figure 2.2 1st Normalized Form of Social Amelioration Card Form Table

2nd Normalized Form (2NF)

supertype

FAMILY MEMBER (**FamNo**, Name, Address, City, Province, Region, Work, Sector, HealthCond, Sex, Birthdate, Role, Relation)

FamNo	Name	Address	City	Province	Region	Work	Sector	HealthCond	Sex	Birthdate	Role	Relation
1	Maria Rosa S. Relox	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Sewer	E	null	F	05/05/1962	H	null
2	Ronaldo S. Relox	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Civil Engineer	null	null	M	01/05/1995	M	Son
3	Rolando S. Relox	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Student	null	null	M	10/20/2000	M	Son
4	Reynaldo S. Relox	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Student	null	4	M	01/06/2007	M	Son
5	Arnaldo S. Relox Jr.	12615 San Pablo St. Mabuhay	Carmona	Cavite	IV-A	Student	null	null	M	11/11/2011	M	Son
6	Steven T. Romero	10315 Gomez St. Brgy. Bacuyangan	Hinoba-an	Negros Occidental	VI	Bus Driver	null	1	M	06/01/1982	H	null
7	Arlene P. Romero	10315 Gomez St. Brgy. Bacuyangan	Hinoba-an	Negros Occidental	VI	Housewife	null	null	F	09/07/1981	M	Wife
8	Marites P. Romero	10315 Gomez St. Brgy. Bacuyangan	Hinoba-an	Negros Occidental	VI	Call Center Agent	C,E	null	F	06/26/1999	M	Daughter
9	Dave P. Romero	10315 Gomez St. Brgy. Bacuyangan	Hinoba-an	Negros Occidental	VI	Student	null	null	M	07/09/2005	M	Son
10	Dominador H. Vargas	Blk 2 Lot 9 San Isidro Village	Cabuyao	Laguna	IV-A	null	A	2	M	07/22/1947	H	null
11	Tessa G.Vargas	Blk 2 Lot 9 San Isidro Village	Cabuyao	Laguna	IV-A	null	A	2	F	11/19/1949	M	Wife

Figure 2.3 Family Member Table (*Supertype*)

subtype

FAMILY HEAD (**FamNo**, IDNo, IDType, Income, PhoneNo, UCTBeneficiary, 4PsBeneficiary, IndigenousGroup)

FamNo	IDNo	IDType	Income	WorkAdd	PhoneNo	UCTBeneficiary	4PsBeneficiary	IndigenousGroup
1	2302-0504A-Z6523CC1999	Voter's ID	1,500	House	09162398000	N	N	null
6	D01-42-98765	Driver Licence	10,000	Kabankalan, Negros Occidental	09498722033	N	N	null
10	9512	Senior Citizen ID		null	09663987123	N	Y	null

Figure 2.4 Family Head Table (*Subtype*)

3rd Normalized Form (3NF) – No Transitive Dependency

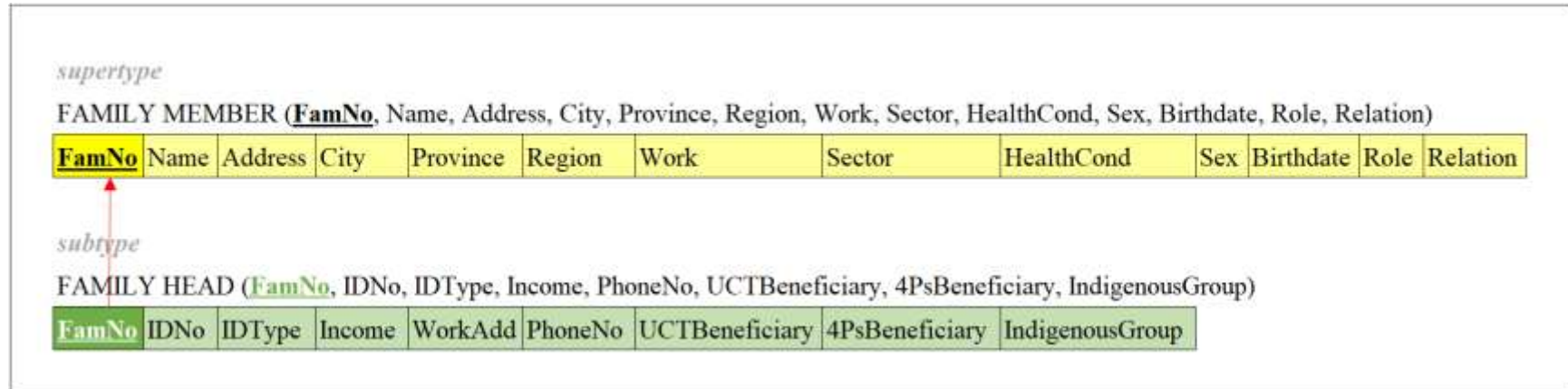


Figure 2.5 Connection of Family Member Table and Family Head Table

DATA DICTIONARY / METADATA

Table 1. Family Member Metadata

Field Name	Data Type	Size	Allowable Values	Required?	Description
FamNo	Integer	5		y	Unique family member number
Name	Varchar	45		y	Name of family member
Address	Varchar	60		y	Address of family member (House no./Street/Barangay)
City	Varchar	25		y	City of family member
Province	Varchar	25		y	Province of family member
Region	Varchar	25		y	Region of family member
Work	Varchar	20		n	Work of family member
Sector	Varchar	12	A B C D E F	n	Sector of family member: A – Senior Citizen; B – Pregnant; C – Lactating Women; D – PWD; E – Solo Parent; and F – Homeless
HealthCond	Integer	1	1 2 3 4 5	n	Health condition of family member 1 – Heart Disease; 2 – High Blood Pressure; 3 – Lung Disease; 4 – Diabetes; and 5 – Cancer
Sex	Char	1	M F	y	Sex of family member (M – Male, F – Female)
Birthdate	Date		YYYY-MM-DD	y	Birthdate of family member
Role	Char	1	H M	y	Role of family member in the family (H – Head, M – Member)
Relation	Varchar	10		n	Relation of family member to family head

Table 2. Family Head Metadata

Field Name	Data Type	Size	Allowable Values	Required?	Description
FamNo	Integer	5		y	Foreign key that points to the unique family member number
IDNo	Varchar	25		y	Unique family head identification number
IDType	Varchar	25		y	Type of family head's identification
Income	Double	8		n	Monthly income of family head
WorkAdd	Varchar	80		n	Work address of family head
PhoneNo	Char	11	09999999999	y	Cellphone number of family head
UCTBeneficiary	Char	1	Y N	y	If family head is a UCT beneficiary (Y – Yes, N – No)
4PsBeneficiary	Char	1	Y N	y	If family head is a 4Ps beneficiary (Y – Yes, N – No)
IndigenousGroup	Varchar	10		n	Indigenous group of family head

ENTITY RELATIONSHIP DIAGRAM (EERD)

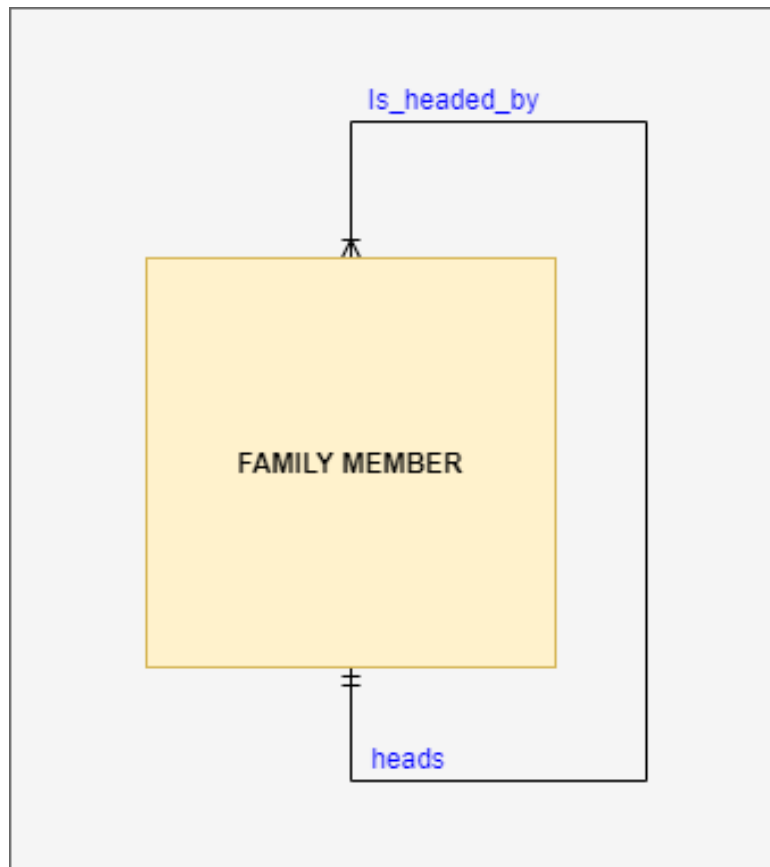


Figure 4. ERD of Social Amelioration Program (SAP) Management System

ENCHANED ENTITY RELATIONSHIP DIAGRAM (EERD)

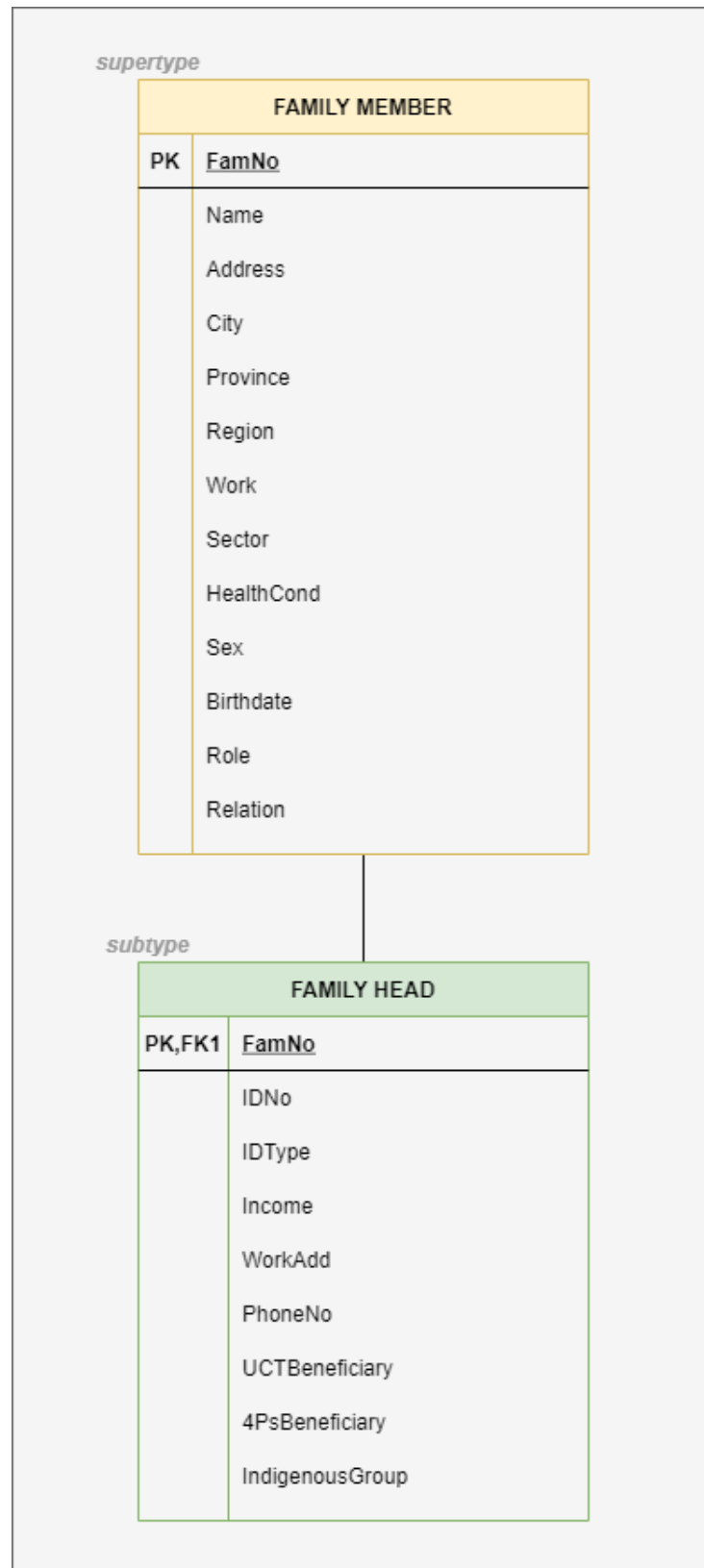


Figure 5. EERD of Social Amelioration Program (SAP) Management System

SQL STATEMENTS

Problem Statements: Simple

1. Display the names and works of all family heads/members in region IV-A.

SQL code:

```
SELECT Name, Work
FROM family_member
WHERE Region = 'IV-A';
```

Output:



The screenshot shows a SQL query editor with the following code:

```
1 * SELECT Name, Work
2 FROM family_member
3 WHERE Region = 'IV-A';
```

Below the editor, the 'Result Grid' displays the results of the query. The table has two columns: 'Name' and 'Work'. The results are as follows:


Name	Work
Mane Rosa S. Rellox	Tailor
Ronaldo S. Rellox	Civil Engineer
Rolando S. Rellox	Student
Reynaldo S. Rellox	Student
Arnaldo S. Rellox Jr.	Student
Dominador H. Vargas	Student
Tessa G. Vargas	Student
Roel D. Flores	Self-employed
Irma A. Flores	Self-employed
Dance Ria A. Flores	Student
Daniel Roy A. Flores	Student
Gregorio O. Espinosa	Tricycle Driver
Zenaida M. Espinosa	Teacher
Melisa M. Espinosa	Student
Margie D. Amil	Medical Technologist
Jake Pedro D. Amil	Software Engineer
Paul Lester D. Amil	Student
Chesca A. Amil	Student
Aniel P. Santos	Engineer
Marisel A. Santos	Housewife
Carlo A. Santos	Student
Marites B. Villar	Online Seller
Vicky B. Villar	student
Domingo G. Salvador	Student
Theresa M. Salvador	Student

- List down the ID number and income of all family head whose income ranges from 2000 to 10000 in descending order.

SQL code:

```
SELECT IDNo, Income
FROM family_head
WHERE Income BETWEEN 2000 AND 10000
ORDER BY 2 DESC;
```

Output:



The screenshot shows a SQL query execution interface. The query is as follows:

```
1 * SELECT IDNo, Income
2 FROM family_head
3 WHERE Income BETWEEN 2000 AND 10000
4 ORDER BY 2 DESC;
```

The results are displayed in a table with the following data:

IDNo	Income
D01-42-98765	10000
5843-831B-M34356HFGH12345	10000
2157-539A-R009198GHC90001	10000
R04-88-2038	9000
P13-34-00932	6500
4492-813G-T99243FDEF33255	5900
6755-899B-A00915ASDC60000	5000
2303-054A-265243CFEC19994	3000

- List down the names, sex, and role (family head or member) whose last name is Santos.

SQL code:

```
SELECT Name, Sex, Role
FROM family_member
WHERE Name LIKE '%Santos';
```

Output:



The screenshot shows a SQL query execution interface. The query is as follows:

```
1 * SELECT Name, Sex, Role
2 FROM family_member
3 WHERE Name LIKE '%Santos';
```

The results are displayed in a table with the following data:

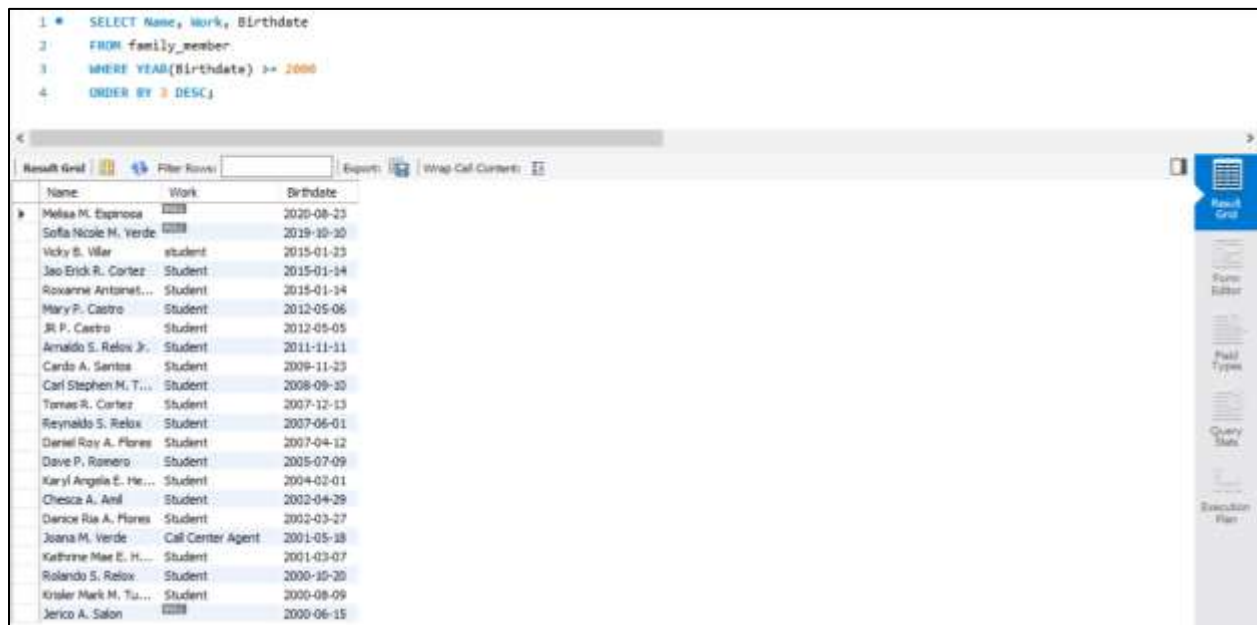
Name	Sex	Role
Ariel F. Santos	M	H
Marcel A. Santos	F	M
Cardo A. Santos	M	M

4. Display the name, work, and birthday of those born in year 2000 and above. Arrange their birthdate in descending order.

SQL code:

```
SELECT Name, Work, Birthdate
FROM family_member
WHERE YEAR(Birthdate) >= 2000
ORDER BY 3 DESC;
```

Output:



The screenshot shows a SQL query execution interface. The query is displayed in a text area at the top, and the results are shown in a table below. The table has three columns: Name, Work, and Birthdate. The results are sorted by Birthdate in descending order.

Name	Work	Birthdate
Melisa M. Espinoza		2020-08-23
Sofia Nicole M. Verde		2019-10-30
Vicky B. Villar	student	2015-01-23
Jao Erick R. Cortez	Student	2015-01-14
Roxanne Antanet...	Student	2015-01-14
Mary P. Castro	Student	2012-05-06
JR P. Castro	Student	2012-05-05
Arnaldo S. Relox Jr.	Student	2011-11-11
Cardo A. Santos	Student	2009-11-23
Carl Stephen M. T...	Student	2008-09-30
Thomas R. Cortez	Student	2007-12-13
Reynaldo S. Relox	Student	2007-06-01
Daniel Ray A. Flores	Student	2007-04-12
Dave P. Romero	Student	2005-07-09
Karyl Angilia E. He...	Student	2004-02-01
Chesica A. Anil	Student	2002-04-28
Dance Ria A. Flores	Student	2002-03-27
Joana M. Verde	Call Center Agent	2001-05-18
Katherine Mae E. H...	Student	2001-03-07
Rolando S. Relox	Student	2000-10-20
Krisler Mark M. Tu...	Student	2000-08-09
Jerico A. Salan		2000-06-15

5. Display the name, address, and city of those who live in the province of Samar. Arrange their name in alphabetical order.

SQL code:

```
SELECT Name, Address, City
FROM family_member
WHERE Province = 'Samar'
ORDER BY 1;
```

Output:



The screenshot shows a SQL query execution interface. The query is displayed in a text area at the top, and the results are shown in a table below. The table has three columns: Name, Address, and City. The results are sorted alphabetically by Name.

Name	Address	City
J.R.P. Castro	10315 San Pedro Street	Catbalogan
Mary P. Castro	10315 San Pedro Street	Catbalogan
R.I.O. Castro	10315 San Pedro Street	Catbalogan

Problem Statements: With Group By/Having

1. Display the province and the count of all the members living in each province. Arrange it in alphabetical order.

SQL code:

```
SELECT Province, COUNT(*)  
FROM family_member  
GROUP BY Province  
ORDER BY 1;
```

Output:



The screenshot shows a SQL query editor with the following query:

```
1 * SELECT Province, COUNT(*)  
2 FROM family_member  
3 GROUP BY Province  
4 ORDER BY 1;  
5
```

Below the query, the results are displayed in a table:

Province	COUNT(*)
Aurora	8
Cavite	17
Laguna	8
Marikina	7
Negros Occidental	4
Pangasinan	7
Samar	3

2. Separately display the counts for the number of family members with the same health conditions.

SQL code:

```
SELECT HealthCond, COUNT(*)  
FROM family_member  
WHERE HealthCond BETWEEN 1 AND 5  
GROUP BY HealthCond;
```

Output:



The screenshot shows a SQL query editor with the following query:

```
1 * SELECT HealthCond, COUNT(*)  
2 FROM family_member  
3 WHERE HealthCond BETWEEN 1 AND 5  
4 GROUP BY HealthCond;
```

Below the query, the results are displayed in a table:

HealthCond	COUNT(*)
4	5
1	1
2	6
5	1
3	3

- Count how many family members have the same work and display only the count which is greater than 2. Do not include nonworking family members (null value).

SQL code:

```
SELECT COUNT(*), Work
FROM family_member
WHERE Work LIKE '%'
GROUP BY Work
HAVING COUNT(*) > 2;
```

Output:



The screenshot shows a SQL query editor with the following query:

```
1 * SELECT COUNT(*), Work
2 FROM family_member
3 WHERE Work LIKE '%'
4 GROUP BY Work
5 HAVING COUNT(*) > 2;
```

Below the query editor, a table titled "Result Grid" displays the results of the query. The table has two columns: "COUNT(*)" and "Work". The results are as follows:

COUNT(*)	Work
20	Student
4	Self-employed

- Count how many family members are in the same sector. Display only the counts greater than 1, sorted in alphabetical order of sector. Do not include family members who are not in any sector (null value).

SQL code:

```
SELECT Sector, COUNT(*)
FROM family_member
WHERE Sector LIKE '%'
GROUP BY Sector
HAVING 2 > 1
ORDER BY 1;
```

Output:



```
1 SELECT Sector, COUNT(*)
2 FROM family_member
3 WHERE Sector LIKE 'S'
4 GROUP BY Sector
5 HAVING COUNT(*) > 1
6 ORDER BY COUNT(*) DESC
```

Sector	COUNT(*)
A	4
A E	1
B	2
C	1
C E	3
D	2
E	3

5. Find the total income for both the UCT beneficiaries and non-UCT beneficiaries. Display only sum of income higher than 10000.

SQL code:

```
SELECT UCTBeneficiary, SUM(Income) AS SumIncome
FROM family_head
GROUP BY UCTBeneficiary
HAVING SumIncome >10000;
```

Output:



```
1 SELECT UCTBeneficiary, SUM(Income) AS SumIncome
2 FROM family_head
3 GROUP BY UCTBeneficiary
4 HAVING SumIncome >10000;
```

UCTBeneficiary	SumIncome
N	106500
Y	39900

Problem Statements: With Multiple Table

1. Display the highest income for each province. Arrange the income in the highest to lowest order.

SQL code:

```
SELECT Province, MAX(Income) AS HighestIncome
FROM family_head H, family_member M
WHERE H.FamNo = M.FamNo
GROUP BY Province
ORDER BY 2 DESC;
```

Output:



The screenshot shows a SQL query editor with the following code:

```
1 * SELECT Province, MAX(Income) AS HighestIncome
2 FROM family_head H, family_member M
3 WHERE H.FamNo = M.FamNo
4 GROUP BY Province
5 ORDER BY 2 DESC;
```

Below the query editor, a table titled "Result Grid" displays the results:

Province	HighestIncome
Pangasinan	28000
Cavite	25000
Laguna	18000
Manila	16000
Negros Occidental	10000
Aurora	10000
Samar	9000

2. Count how many UCT beneficiaries are there in each region.

SQL code:

```
SELECT COUNT(*), Region
FROM family_head H, family_member M
WHERE H.FamNo = M.FamNo AND UCTBeneficiary = 'Y'
GROUP BY Region;
```

Output:



The screenshot shows a SQL query editor with the following code:

```
1 SELECT COUNT(*), Region
2 FROM family_head H, family_member M
3 WHERE H.FamNo = M.FamNo AND UCTBeneficiary = 'Y'
4 GROUP BY Region;
```

Below the query editor, a table titled "Result Grid" displays the results:

COUNT(*)	Region
1	I
1	IV-6
1	III
1	VIII

3. List down the names and work of all family heads whose income ranges from 5000 to 10000. Display in ascending order of their income.

SQL code:

```
SELECT Name, Work, Income
FROM family_head H, family_member M
WHERE H.FamNo = M.FamNo AND Income BETWEEN 5000 AND 10000
ORDER BY 3;
```

Output:



The screenshot shows a SQL query editor with the following code:

```
1 SELECT Name, Work, Income
2 FROM family_head H, family_member M
3 WHERE H.FamNo = M.FamNo AND Income BETWEEN 5000 AND 10000
4 ORDER BY 3;
```

Below the query, a table titled 'Result Grid' displays the results. The table has three columns: Name, Work, and Income. The data is sorted in ascending order of income.

Name	Work	Income
Anel F. Santos	Engineer	5000
Mary Anne E. Hernandez	Street Sweeper	5900
Gregorio O. Espinosa	Tricycle Driver	6500
RJ O. Castro	Driver	9000
Steven T. Romero	Bus Driver	10000
Carlos G. Tuzson	Self-employed	10000
Marites B. Villar	Online Seller	10000

4. List the total income of the family heads in each city in Region IV-A. Add only the income of those greater than or equal to 5000. Display the income in descending order.

SQL code:

```
SELECT City, SUM(Income) AS SumIncome
FROM family_head H, family_member M
WHERE H.FamNo = M.FamNo AND Region = 'IV-A' AND Income >= 5000
GROUP BY City
ORDER BY 2 DESC;
```

Output:



```

1 * SELECT City, SUM(Income) AS SumIncome
2 FROM family_head H, family_member M
3 WHERE H.FamNo = M.FamNo AND Region = 'IV-A' AND Income >= 5000
4 GROUP BY City
5 ORDER BY SUMIncome DESC

```

City	SumIncome
Bacoor	25000
San Pablo City	18000
Tanza	10000
General Trias City	6500
Carmona	5000

5. Display all the records of the female family heads.

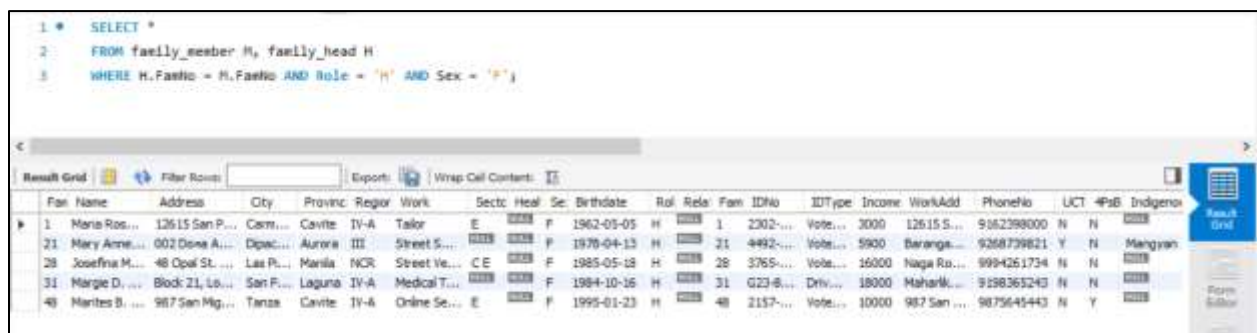
SQL code:

```

SELECT *
FROM family_member M, family_head H
WHERE M.FamNo = H.FamNo AND Role = 'H' AND Sex = 'F';

```

Output:



```

1 * SELECT *
2 FROM family_member M, family_head H
3 WHERE H.FamNo = M.FamNo AND Role = 'H' AND Sex = 'F'

```

Fam Name	Address	City	Provinc	Region	Work	Sectc	Heal	Se	Birthdate	Rol	Rela	Fam IDNo	IDType	Income	WorkAdd	PhoneNo	UCT	#PoB	Indigeno
1 Maria Ros...	12615 San P...	Cerm...	Cavite	IV-A	Tailor	E		F	1962-05-05	H		1 2302...	Vote...	3000	12615 S...	9162298000	N	N	
21 Mary Anne...	002 Dona A...	Dipac...	Aurora	III	Street S...			F	1978-04-13	H		21 4492...	Vote...	5900	Baranga...	9268739821	Y	N	Mangyan
28 Josefina M...	48 Opal St...	Las Pl...	Manila	NCR	Street Ve...	CE		F	1985-05-18	H		28 3765...	Vote...	16000	Naga Ro...	9994261734	N	N	
31 Margie D...	Block 21, Lb...	San F...	Laguna	IV-A	Medical T...			F	1984-10-16	H		31 023-6...	Driv...	18000	MaharN...	9298365243	N	N	
48 Marites B...	987 San Mg...	Tanza	Cavite	IV-A	Online Se...	E		F	1995-01-23	H		48 2157...	Vote...	10000	987 San ...	9875645443	N	Y	

SCREENSHOT OF USER INTERFACE



Figure 7.1 Home Panel

The screenshot shows the "SOCIAL AMELIORATION CARD (SAC) FORM" for the "Family Head" section. The form is divided into two main columns. The left column contains fields for: Name, House No./Street/Bldg., City, Province, Region, Sex (Male/Female), Work, Monthly Income, Work Address, and Sector. The right column contains fields for: ID Type, ID Number, Birthdate, Cellphone Number, Indigenous Group, Beneficiary of OCT, Beneficiary of 4Ps, and Health Condition. The Health Condition section includes checkboxes for Senior Citizen, Lactating Women, Solo Parent, Pregnant, PWD, Homeless, Heart Disease, Lung Disease, Cancer, High Blood Pressure, Diabetes, and None. A "NEXT" button is located at the bottom right of the form.

Figure 7.3 SAC Form Panel – Family Head Internal Frame

SOCIAL AMELIORATION CARD (SAC) FORM

Family Head

Name: ID Type:

House No./Street/Brgy.: ID Number:

City: Birthdate:

Region: Cellphone Number:

Work: Indigenous Group:

Work Address:

Sector:

☐ Senior Citizen ☐ Lactating Women ☐ Solo Parent ☐ Beneficiary of UCT ☐ Beneficiary of 4Ps

☐ Pregnant ☐ PWD ☐ Homeless ☐ Heart Disease ☐ Lung Disease ☐ Cancer

☐ High Blood Pressure ☐ Diabetes ☐ None

Warning: Incomplete input

Please fill in required fields.

OK

NEXT

Figure 7.4 SAC Form Panel – Family Head Internal Frame (Error Message)

SOCIAL AMELIORATION CARD (SAC) FORM

Family Head

Name: ID Type:

House No./Street/Brgy.: ID Number:

City: Birthdate:

Region: Cellphone Number:

Work: Indigenous Group:

Work Address:

Sector:

☐ Senior Citizen ☐ Lactating Women ☐ Solo Parent ☐ Beneficiary of UCT ☐ Beneficiary of 4Ps

☐ Pregnant ☐ PWD ☐ Homeless ☐ Heart Disease ☐ Lung Disease ☐ Cancer

☐ High Blood Pressure ☐ Diabetes ☐ None

Success: Profile Saved

Family head profile is successfully saved.

OK

NEXT

Figure 7.5 SAC Form Panel – Family Head Internal Frame (Success Message)

SOCIAL AMELIORATION CARD (SAC) FORM

Family Member

Name: Mark S. Corpus

House No./Street/Bldg.: 314 Rm Street, Barangay Kasilan

City: Davao

Province: Davao

Region: XI

Sex: ☒ Male ☐ Female

Work: Civil Engineer

Birthdate: 1994.03.08

Family Head Name: Mark Angelo V. Corpus

Relation to Family Head: Son

Sector:

☐ Senior Citizen ☐ Lactating Women ☐ Solo Parent

☐ Pregnant ☐ PWD ☐ Homeless

Health Condition:

☐ Heart Disease ☐ Lung Disease ☐ Cancer

☐ High Blood Pressure ☐ Diabetes ☐ None

ADD

Figure 7.6 SAC Form Panel – Family Member Internal Frame

Question: Add Another?

Do you wish to add another family member?

YES **NO**

Figure 7.7 SAC Form Panel – Family Member Internal Frame (Confirmation Dialog)

HOME

SAC Form

FAMILY PROFILES

VIEW PROFILES

☐ View Family Member Profile

VIEW ALL PROFILES				VIEW FAMILY HEAD				VIEW FAMILY MEMBER				
Family	Name	Address	City	Province	Region	Work	Sector	Health Card	Sex	Birthdate	Role	Relation
1	Ranaldo S.	12011 San	Camarines	Carab.	N.A.	Child Care		8	M	1982-01-31	M	Son
2	Rolando S.	12011 San	Camarines	Carab.	N.A.	Student		8	M	2008-10-20	M	Son
3	Raynald S.	12011 San	Camarines	Carab.	N.A.	Student		4	M	2007-06-01	M	Son
4	Arnaldo S.	12011 San	Camarines	Carab.	N.A.	Student		8	M	2011-11-11	M	Son
5	Arden P. N.	10011 Da.	Hindoluan	Meguid	VI	Housewife		8	F	1981-06-07	M	Wife
6	Maribel P.	10011 Da.	Hindoluan	Meguid	VI	Child Center	C.E.	8	F	1996-06-26	M	Daughter
7	Dave P. R.	10011 Da.	Hindoluan	Meguid	VI	Student		8	M	2006-07-09	M	Son
8	Teresa G. Y.	10011 Da.	Cabulan	Laguna	N.A.		A	8	F	1948-11-19	M	Wife
9	Bernard A.	00112 Baga	Sison	Pangasinan	I	Construction		8	M	1971-11-10	M	Son
10	Anna A. Pina	00112 Baga	Sison	Carab.	N.A.	Self-employed		8	F	1962-02-16	M	Wife
11	Terrence Pina	00112 Baga	Sison	Carab.	N.A.	Student		8	F	2002-05-27	M	Daughter
12	Janet Pina	00112 Baga	Sison	Carab.	N.A.	Student		8	M	2007-04-12	M	Son
13	Jesusito M.	00112 Baga	Sison	Carab.	N.A.	Teacher	C	8	F	1966-01-02	M	Wife
14	Melinda M. E.	00112 Baga	Sison	Carab.	N.A.			8	F	2006-06-23	M	Daughter
15	Katherine M.	00112 Baga	Sison	Carab.	N.A.	Student		8	F	2001-03-07	M	Daughter
16	Karl Angelo	00112 Baga	Sison	Carab.	N.A.	Student		8	F	2004-02-01	M	Daughter
17	Martha A.	00112 Baga	Sison	Carab.	N.A.	Student		8	F	1972-07-28	M	Wife
18	Kristen Pina	00112 Baga	Sison	Carab.	N.A.	Student		8	F	1994-05-15	M	Daughter
19	Jesus A. S.	00112 Baga	Sison	Carab.	N.A.	Student		8	M	2000-06-15	M	Son
20	Joanna M. V.	00112 Baga	Sison	Carab.	N.A.	Child Center		8	F	2001-05-18	M	Daughter
21	Sofia Nolas	00112 Baga	Sison	Carab.	N.A.	Student		8	F	2016-10-10	M	Daughter
22	John Paolo	00112 Baga	Sison	Carab.	N.A.	Software E.		8	M	1980-01-28	M	Husband
23	Paul Lester	00112 Baga	Sison	Carab.	N.A.	Student		8	M	1998-01-29	M	Son
24	Christina A.	00112 Baga	Sison	Carab.	N.A.	Student		8	F	2002-04-25	M	Daughter
25	Wendy B.	00112 Baga	Sison	Carab.	N.A.	Self-employed	B	8	F	1977-04-05	M	Wife
26	Carlito Baga	00112 Baga	Sison	Carab.	N.A.	Student		8	F	1986-05-06	M	Daughter
27	Kristen M.	00112 Baga	Sison	Carab.	N.A.	Student	D	8	M	2006-08-09	M	Son
28	Carl Steph.	00112 Baga	Sison	Carab.	N.A.	Student		8	M	2006-06-10	M	Son
29	Valentina R.	00112 Baga	Sison	Carab.	N.A.	Nurse		8	F	1987-11-12	M	Wife
30	Tomas R.	00112 Baga	Sison	Carab.	N.A.	Student	D	8	M	2007-12-13	M	Son

Figure 7.10 View Profile Panel – View Family Member Internal Frame

SCREENSHOT OF TEST DATA

1 * SELECT * FROM sapas_db.family_member;

Family	Name	Address	City	Province	Region	Work	Sector	HealthCond	Sex	Birthdate	Role	Relation
1	Maria Rosa S. Relox	12615 San Pablo St. Mabuhay	Camona	Cavite	IV-A	Teller	E		F	1962-03-05	H	
2	Ronaldo S. Relox	12615 San Pablo St. Mabuhay	Camona	Cavite	IV-A	Civil Engineer			M	1995-01-05	M	Son
3	Rolando S. Relox	12615 San Pablo St. Mabuhay	Camona	Cavite	IV-A	Student			M	2000-02-20	M	Son
4	Raynaldo S. Relox	12615 San Pablo St. Mabuhay	Camona	Cavite	IV-A	Student		4	M	2007-06-01	M	Son
5	Arnaldo S. Relox Jr.	12615 San Pablo St. Mabuhay	Camona	Cavite	IV-A	Student			M	2011-11-11	M	Son
6	Steven T. Romero	10315 Gomez St. Brgy. Sasuyangan	Hindabon	Negros Occidental	VS	Bus Driver		1	M	1982-06-01	H	
7	Arlene P. Romero	10315 Gomez St. Brgy. Sasuyangan	Hindabon	Negros Occidental	VS	Housewife			F	1981-09-07	M	Wife
8	Marites P. Romero	10315 Gomez St. Brgy. Sasuyangan	Hindabon	Negros Occidental	VS	Call Center Agent	C E		F	1999-06-26	M	Daughter
9	Dave P. Romero	10315 Gomez St. Brgy. Sasuyangan	Hindabon	Negros Occidental	VS	Student			M	2005-07-06	M	Son
10	Dominador H. Vargas	88-2 Lot 9 San Isidro Village	Cabuyao	Laguna	IV-A		A	2	M	1947-07-22	H	
11	Tessa G. Vargas	88-2 Lot 9 San Isidro Village	Cabuyao	Laguna	IV-A		A	2	F	1949-11-19	M	Wife
12	Armando G. Tesoro	0112 Brgy. Bulacan East	San	Pangasinan	I		A E	2	M	1951-03-18	H	
13	Benjamin A. Tesoro	0112 Brgy. Bulacan East	San	Pangasinan	I	Construction Worker			M	1971-11-10	M	Son
14	Ruel D. Flores	245 Magnolia St., Wood Estate Village 2, Noline 3	Bacoor	Cavite	IV-A	Self-employed			M	1978-06-30	H	
15	Ima A. Flores	245 Magnolia St., Wood Estate Village 2, Noline 3	Bacoor	Cavite	IV-A	Self-employed		5	F	1982-02-16	M	Wife
16	Dance Ria A. Flores	245 Magnolia St., Wood Estate Village 2, Noline 3	Bacoor	Cavite	IV-A	Student			F	2002-03-27	M	Daughter
17	Daniel Roy A. Flores	245 Magnolia St., Wood Estate Village 2, Noline 3	Bacoor	Cavite	IV-A	Student			M	2007-04-12	M	Son
18	Gregorio O. Espinosa	88-22 Lot 32, Tierra Solana Phase 2, Buenavista III	General Trias City	Cavite	IV-A	Tricycle Driver			M	1989-09-06	H	
19	Zenaida M. Espinosa	88-22 Lot 32, Tierra Solana Phase 2, Buenavista III	General Trias City	Cavite	IV-A	Teacher	C		F	1986-01-02	M	Wife
20	Melisa M. Espinosa	88-22 Lot 32, Tierra Solana Phase 2, Buenavista III	General Trias City	Cavite	IV-A				F	2020-09-23	M	Daughter
21	Mary Anne E. Hernandez	002 Dona Aurora Street, South Poblacion	Dapaculas	Aurora	III	Street Sweeper			F	1978-04-13	H	
22	Kathrine Mae E. Hernandez	002 Dona Aurora Street, South Poblacion	Dapaculas	Aurora	III	Student		5	F	2001-03-07	M	Daughter
23	Karyl Angelle E. Hernandez	002 Dona Aurora Street, South Poblacion	Dapaculas	Aurora	III	Student			F	2004-02-01	M	Daughter
24	Jerold G. Salan	49 Mangald St., Pilar Village, Barangay Pilar	Pang City	Marikina	NCR			4	M	1968-11-28	H	
25	Marites A. Salan	49 Mangald St., Pilar Village, Barangay Pilar	Pang City	Marikina	NCR				F	1972-07-08	M	Wife
26	Kristine Marlene A. Salan	49 Mangald St., Pilar Village, Barangay Pilar	Pang City	Marikina	NCR	Electrical Engineer			F	1994-03-15	M	Daughter
27	Jerico A. Salan	49 Mangald St., Pilar Village, Barangay Pilar	Pang City	Marikina	NCR				M	2000-06-15	M	Son
28	Josefina H. Verde	48 Opal St. Las Pinas Royale Subd. Naga Road	Las Pinas	Marikina	NCR	Street Vendor	C E		F	1985-05-28	H	
29	Joana M. Verde	48 Opal St. Las Pinas Royale Subd. Naga Road	Las Pinas	Marikina	NCR	Call Center Agent			F	2001-05-28	M	Daughter
30	Sofia Nicole M. Verde	48 Opal St. Las Pinas Royale Subd. Naga Road	Las Pinas	Marikina	NCR				F	2019-10-30	M	Daughter
31	Marge D. And	Block 21, Lot 3, NHA Subdivision, Brgy. Sto. Angel	San Pablo City	Laguna	IV-A	Medical Technologist			F	1984-10-26	H	
32	Jake Paolo D. And	Block 21, Lot 3, NHA Subdivision, Brgy. Sto. Angel	San Pablo City	Laguna	IV-A	Software Engineer		2	M	1980-01-28	M	Husband
33	Paul Lester D. And	Block 21, Lot 3, NHA Subdivision, Brgy. Sto. Angel	San Pablo City	Laguna	IV-A	Student		3	M	1999-01-29	M	Son
34	Chessa A. And	Block 21, Lot 3, NHA Subdivision, Brgy. Sto. Angel	San Pablo City	Laguna	IV-A	Student		3	M	2002-04-29	M	Daughter
35	Carlos G. Tuzon	014 Burgos Street, Barangay 05	Baler	Aurora	III	Self-employed		4	M	1974-03-14	H	
36	Sheralyn M. Tuzon	014 Burgos Street, Barangay 05	Baler	Aurora	III	Self-employed	B		F	1977-04-05	M	Wife
37	Cyril Shane M. Tuzon	014 Burgos Street, Barangay 05	Baler	Aurora	III	Student			F	1998-05-06	M	Daughter
38	Kristel Mark M. Tuzon	014 Burgos Street, Barangay 05	Baler	Aurora	III	Student	D		M	2000-08-09	M	Son
39	Carl Stephen M. Tuzon	014 Burgos Street, Barangay 05	Baler	Aurora	III	Student			M	2006-09-20	M	Son
40	Arvin S. Cortez	234 Cujungco St., Barangay Bantay Itik	San	Pangasinan	I	Horse			M	1985-10-11	H	
41	Valentine R. Cortez	234 Cujungco St., Barangay Bantay Itik	San	Pangasinan	I	Horse			F	1987-11-12	M	Wife
42	James R. Cortez	234 Cujungco St., Barangay Bantay Itik	San	Pangasinan	I	Student	O		M	2007-12-13	M	Son
43	Joe Erik R. Cortez	234 Cujungco St., Barangay Bantay Itik	San	Pangasinan	I	Student		2	M	2015-01-14	M	Son
44	Roxanne Antonette R. Cortez	234 Cujungco St., Barangay Bantay Itik	San	Pangasinan	I	Student			F	2015-01-14	M	Daughter
45	Arnel P. Santos	123 San Pablo Street	Camona	Cavite	IV-A	Engineer		3	M	1990-11-23	H	
46	Marcel A. Santos	123 San Pablo Street	Camona	Cavite	IV-A	Housewife	B		F	1994-03-04	M	Wife
47	Carlo A. Santos	123 San Pablo Street	Camona	Cavite	IV-A	Student			M	2009-11-23	M	Son
48	Marites B. Villar	987 San Miguel Street	Tanza	Cavite	IV-A	Online Seller	E		F	1995-01-25	H	
49	Vicky B. Villar	987 San Miguel Street	Tanza	Cavite	IV-A	Student		4	F	2015-01-25	M	Daughter
50	RJ O. Castro	30315 San Pedro Street	Caribolagan	Sanar	VIII	Driver	E		M	1995-11-23	H	
51	JR P. Castro	30315 San Pedro Street	Caribolagan	Sanar	VIII	Student			M	2012-05-05	M	Son
52	Mary P. Castro	30315 San Pedro Street	Caribolagan	Sanar	VIII	Student	C E		F	2012-05-06	M	Daughter
53	Domingo G. Salvador	88-5 lot 3 Magnesium	Cabuyao	Laguna	IV-A		A	4	M	1954-01-01	H	
54	Teressa H. Salvador	88-5 lot 3 Magnesium	Cabuyao	Laguna	IV-A		A		F	1956-02-04	M	Wife

Figure 8.1 `family_member` Table Test Data

SELECT * FROM sapms_db.family_head;

FamilyID	IDNo	IDType	Income	WorkAdd	PhoneNo	UCTBeneficiary	#Beneficiary	IndigenousGroup
1	2302-0344-255240CPEC19994	Voter's ID	3000	12815 San Pablo St. Mabuhay	09162398500	N	N	
6	001-42-90763	Driver's License	30000	Kabankalan, Negros Occidental	08498723533	N	N	
10	9512	Senior Citizen ID			09663987123	N	Y	
12	2134	Senior Citizen ID			09723264578	Y	N	Lunad
14	2731-090F-H32904LBD13320	Voter's ID	25000	#45 Magnolia St., Wood Estate Village 3, Molino 3, Bacoor, Cavite	08279759166	Y	N	
18	F13-34-00832	Driver's License	6000	General Trias City, Cavite	09182564455	N	N	
21	4492-913C-T99243PDEF33255	Voter's ID	5900	Barangay North Poblacion, Dapitan, Aurora	09268739821	Y	N	Mangyan
24	1482-763H-634643PFAH67655	Voter's ID			09654236718	N	Y	
28	3765-2095-A12354YSAY67654	Voter's ID	55000	Naga Road, Pasig City, Manila	09994261734	N	N	
31	619-88-65276	Driver's License	39000	Marikina Highway, San Pablo City, Laguna	09188365243	N	N	
35	5843-613B-PH4356-PQH12345	Voter's ID	20000	Barangay 05, Baler, Aurora	09527836521	N	Y	Igorot
40	7034-314C-R26543GG6P43230	Voter's ID	28000	Noble St, Downtown District, Dagupan, Pangasinan	09873549723	N	N	
45	6755-9998-A00915ASDC60000	Voter's ID	5000	Makati, Manila	08123456789	N	N	
48	2157-529A-R009258QH300001	Voter's ID	30000	987 San Miguel Street, Carmona, Cavite	09875645443	N	Y	
50	804-88-2036	Drivers License	9000	Quezon City	09232432556	Y	N	
53	53111	Senior Citizen ID			09252456543	N	N	

Figure 8.1 `family_head` Table Test Data