INTERNATIONAL STATE COLLEGE OF THE PHILIPPINES (ISCP) STUDENT ADMISSION SYSTEM

A System Proposal presented to the Faculty of the College of Computer and Information Sciences, Polytechnic University of the Philippines

In Partial Fulfillment for the Course

COMP 20093 – Information Management

PROPONENTS

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BSIT 2-1

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OVERVIEW OF THE PROJECT





State International College the Philippines (ISCP) has introduced new student registration/admission to streamline the enrollment process. The form is designed to capture all relevant information, including personal details of the student applicant, previous schooling information, and guardian information and is governed by business rules based on the principles of normalization.

The business rules ensure that each student has a unique admission number, that each parent or guardian should have their PhilSys ID to be filled by the student, and that previous schooling information to be filled by the student is organized in a normalized manner. By adhering to these rules, the ISCP can ensure that the data collected is consistent, accurate, and easy to use, allowing them to focus on providing the best possible education to their students.

MANUAL FORM



ISCP STUDENT REGISTRATION / ADMISSION FORM

Admi Stud Cam		of Dinto			ogram: ce of Birth:		
Sex: Date of Birth: Religion: Nationality:				Pia	ce or birtir.		
	ious Schooling Det	•					
	Name of School	School Address	School ID	Start	End	Class Standing	
I.				2			
11.							
III.							
City: Cont	nanent Address: act Number: il Address:		Postal Code:				
Nam PhilS Occu	er's/Guardian's Info e: Sys ID: upation: dian Address:	ormation	Relationship:				
City:	act Number:		Postal Code: Email Address:				
Nam PhilS Occu Guar City:	ner's Information e: Sys ID: upation: rdian Address: act Number:		Postal Code: Email Address	s:			
1	ness Rules: . Each student shou . A student can hav						

- 3. The guardian/s could be the mother, father, or any relative.
- 4. A student can only have one program choice and campus choice.
- 5. A student should be an incoming first year student.

NORMALIZATION

Business Rules:

- 1. Each student should have a unique admission number assigned to them.
- 2. A student can have one or more previous schools and guardians.
- 3. The guardian/s can be the mother, father, or any relative.
- 4. A student can only have one program choice and campus choice.
- 5. A student should be an incoming first year student.

Note: Kindly refer to the excel file (<u>Group 7 Normalization.xlsx</u>) to see the more detailed normalization.

1NF

STUDENT(<u>Admission Number</u>, Name, Campus, Program, Sex, Birthday, Birthplace, Religion, Nationality, {<u>School ID</u>, Name_of_Previous_School, School_Address, From, To, Class_Standing}, Permanent_Address, City, Postal_Code, Contact_Number, Email_Address, {Name_of_Guardian, Relationship, <u>PhilSys_ID</u>, Occupation, Address, G_City, G_Postal_Code, G_Contact_Number, G_Email_Address})

2NF

STUDENT_INFO(<u>Admission Number</u>, Name, Campus, Program, Sex, Birthday, Birthplace, Religion, Nationality, Permanent_Address, City, Postal_Code, Contact_Number, Email_Address)

SCHOOL_INFO(<u>Admission, Number, School_ID</u>, Name_of_Previous_School, School_Address, Start, End, Class_Standing)

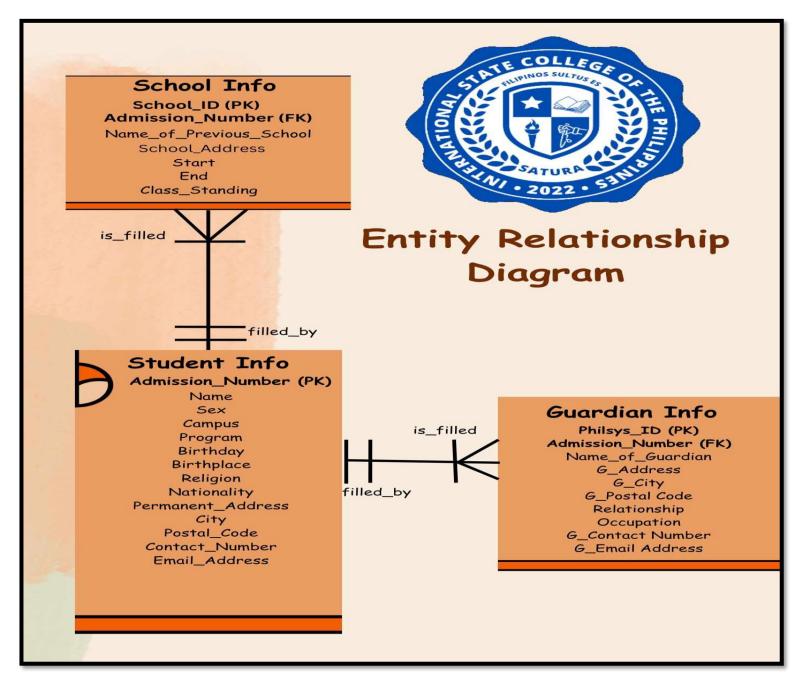
GUARDIAN_INFO(<u>Admission Number</u>, <u>PhilSys ID</u>, Name_of_Guardian, G_Address, Relationship, G_City, Occupation, G_Postal_Code, G_Contact_Number, G_Email_Address)

3NF - No Transitive Dependencies*

ENTITY RELATIONSHIP DIAGRAM (ERD)

Business Rules:

- 1. A student is identified by its Admission Number. It has a name, sex, campus, program, birthday, birthplace, religion, nationality, permanent address, student's postal code, contact number, and e-mail address. Each student is introduced by their previous school/s which has a School ID as its identifier. Its attributes are the school's name, address, student's starting grade level, student's ending grade level and their class standing. Each school gave information about a student for their admission.
- 2. A student can have one or many guardians that take care of them. The guardian/s could be the mother, father, or any relative. A guardian has their Philsys ID as their identifier and their attributes include their name, address, city, postal code, relationship to the student, occupation, contact number and email address. The guardian/s are responsible to exactly one student applicant per admission number.



DATA DICTIONARY

STUDENT_INFO						
	Data		Item	V	alue alue	
	Name	Type	Length	Format	Allowable Values	Description
Primary Key	Admission_Number	Integer	10			a unique identifier assigned to a student upon admission
	Name	Varchar	30	SN, FN, MI		the full name of the student
	Campus	Varchar	50			the campus where the student is applying from
	Program	Varchar	50			the academic program or course that the student is applying for
	Sex	Char	1		M,F	the biological gender of the student
	Birthday	Date		YY/MM/DD		the date of birth of the student
	Birthplace	Varchar	50			the city, state/province, or country where the student was born
	Religion	Varchar	50			the religious affiliation of the student
	Nationality	Varchar	50			the country of citizenship or nationality of the student
	Permanent_Address	Varchar	99			the permanent address of the student
	City	Varchar	30			the city or locality of the student's current residence
	Postal_Code	Integer	4			the postal code or zip code of the student's current residence
	Contact _Number	Integer	11			the phone number or contact information of the student
	Email_Address	Varchar	50			the email address of the student

Table 1. Student Table

SCHOOL INFO						
	Data		Item	Value		
	Name	Туре	Length	Format	Allowable Valu	Description
Foreign Key	Admission_Number	Integer	15			a unique identifier assigned to a student upon admission
Primary Key	School_ID	Integer	10			a unique identifier assigned to the school
	Name_of_Previous_School	Varchar	99			the name of the school or institution the student previously attended
	School_Address	Varchar	90			the address of the previous school or institution where the student is enrolled
	Start	Varchar	20			starting grade level of the student in the said previous school
	End	Varchar	20			ending grade level of the student in the said previous school
	Class_Standing	Varchar	30			award received by the student

Table 2. School Table

GUARDIAN_INFO						
	Data	Data Item		Value		
	Name	Туре	Length	Format	Allowable Values	Description
Foreign Key	Admission_Number	Integer	15			a unique identifier assigned to a student upon admission
	Guardian_Name	Varchar	50	SN, FN, MI		the complete name of the student's legal guardian or parent
	Relationship	Varchar	15			the relationship of the guardian to the student
Primary Key	PhilSys_ID	Integer	13			the Philippine Identification System (PhilSys) ID number of the guardian or
	Occupation	Varchar	30			the occupation or job of the guardian/parent
	Address	Varchar	90			The address of the guardian/parent
	G_Postal_Code	Integer	4			the postal code or zip code of the guardian's current residence
	G_City	Varchar	30			the city or locality of the guardians' current residence
	G_Contact_Number	Integer	11			Contact information of the guardian
	G_Email_Address	Varchar	60			Email address of the guardian

Table 3. Guardian Table

GRAPHICAL USER INTERFACE



Figure 1. Home Page



Figure 2. Student Admission Start Page



Figure 3. Previous School Information Page



Figure 4. Guardian Information Page



Figure 5. Updating and Deleting Record Page 1

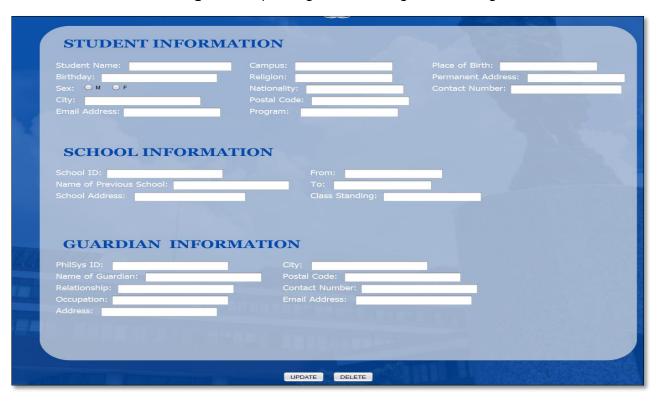


Figure 6. Updating and Deleting Record Page 2



Figure 7. Easy Problem #1

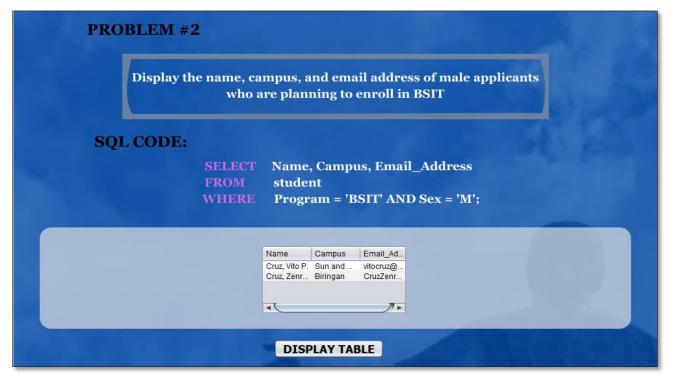


Figure 8. Easy Problem #2

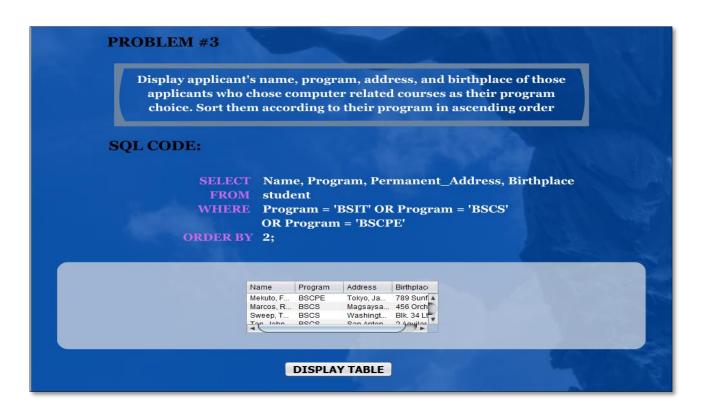


Figure 9. Easy Problem #3

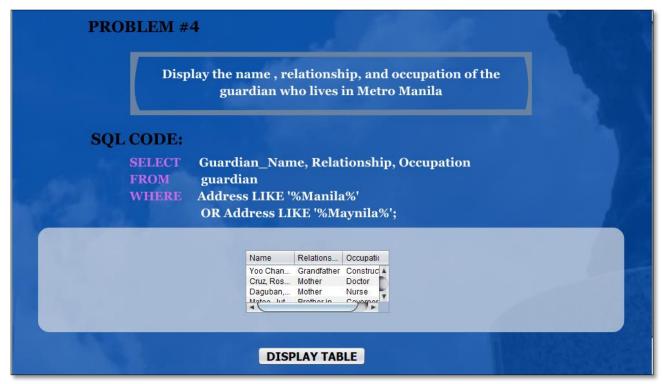


Figure 10. Easy Problem #4

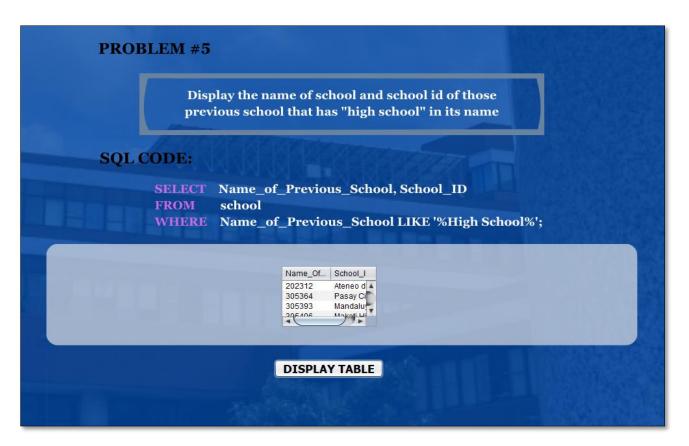


Figure 11. Easy Problem #5

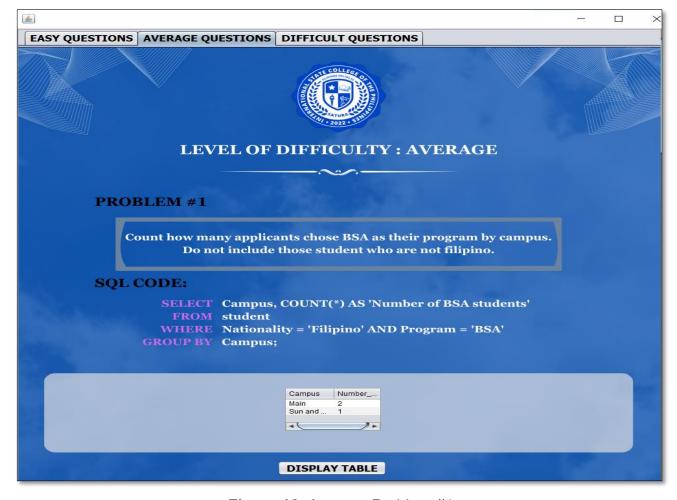


Figure 12. Average Problem #1

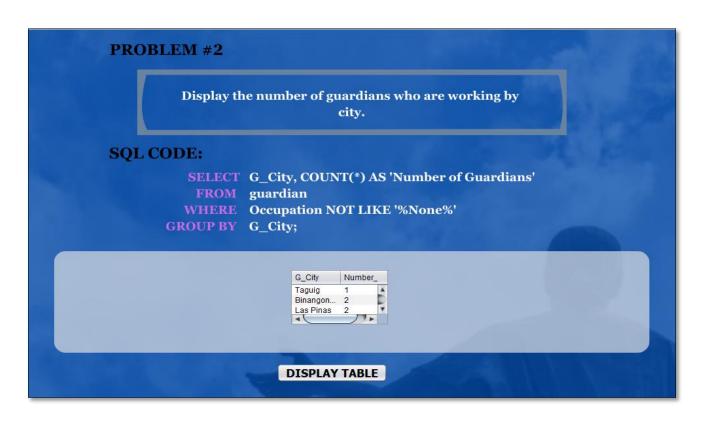


Figure 13. Average Problem #2

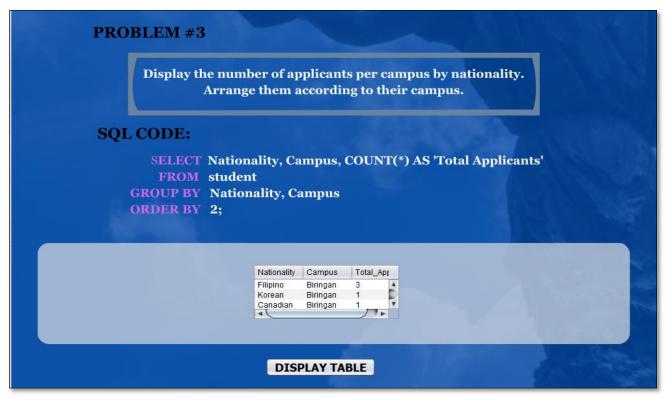


Figure 14. Average Problem #3

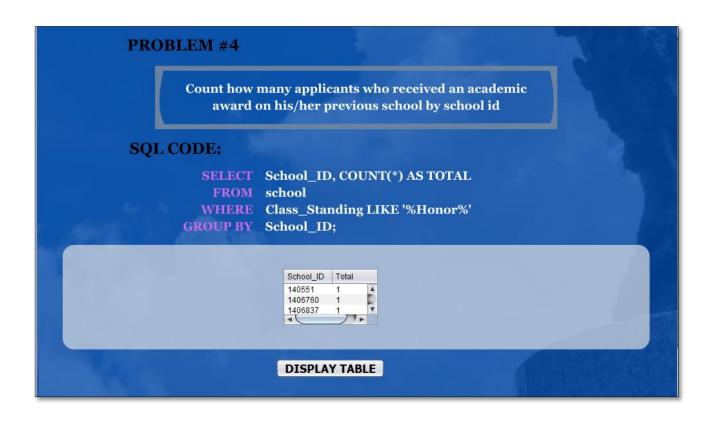


Figure 15. Average Problem #4

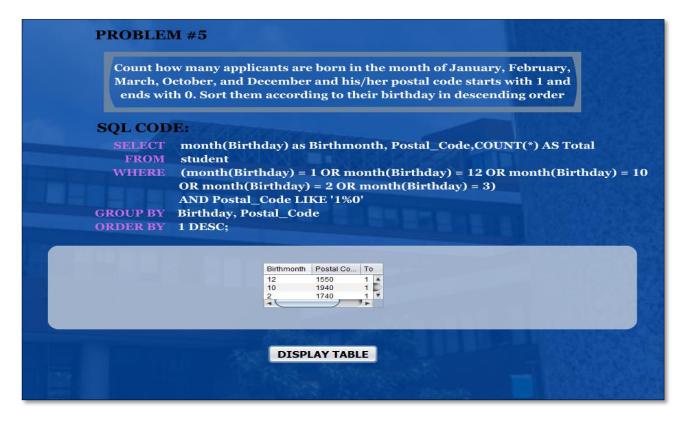


Figure 16. Average Problem #5

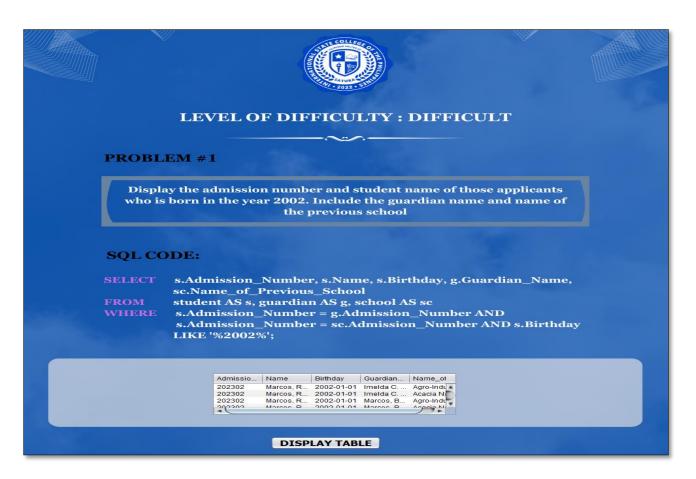


Figure 17. Difficult Problem #1

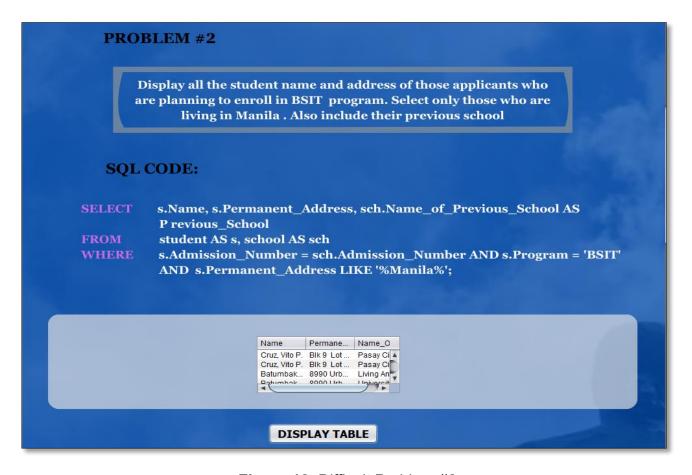


Figure 18. Difficult Problem #2

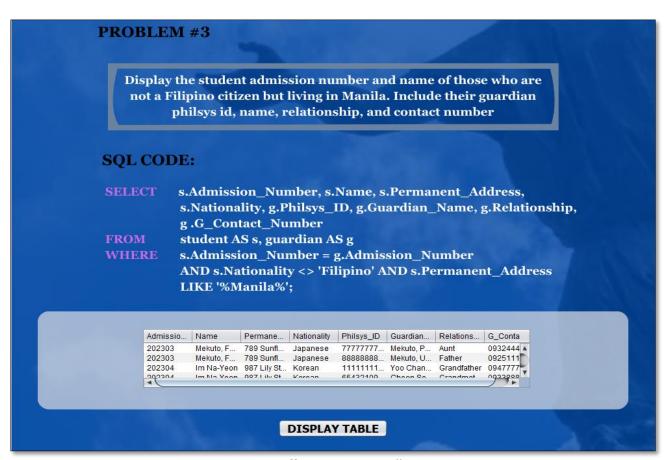


Figure 19. Difficult Problem #3

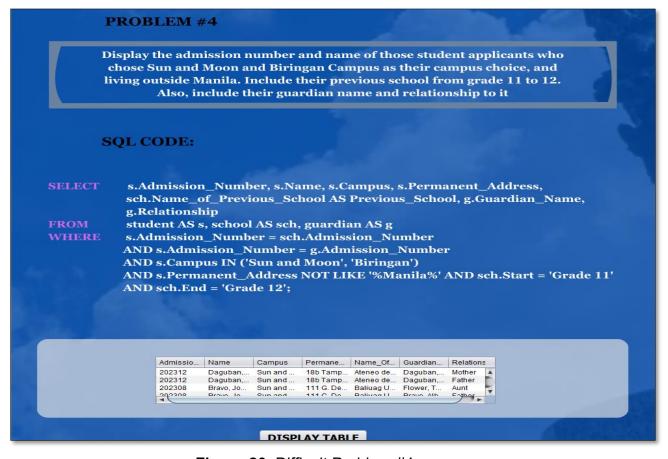


Figure 20. Difficult Problem #4

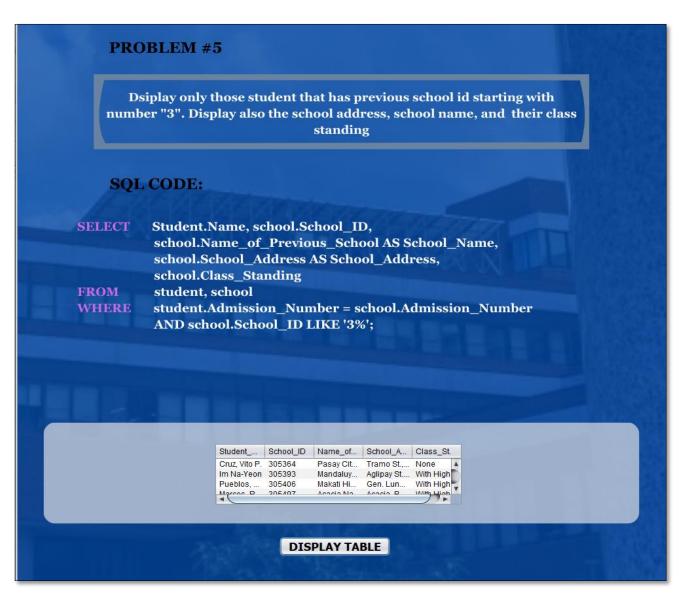


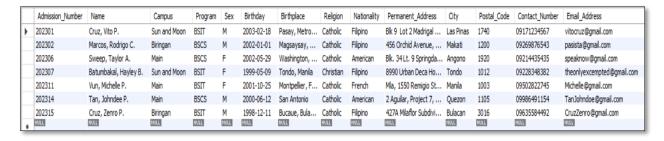
Figure 21. Difficult Problem #5

SQL CODES

I. EASY

Problem Statement #1. Display the record of applicants who are planning to enroll in BSIT and BSCS.

```
SELECT *
FROM student
WHERE Program = 'BSIT' OR Program = 'BSCS';
```



Problem Statement #2. Display the name, campus, and email address of male applicants who are planning to enroll in BSIT.

```
SELECT Name, Campus, Email_Address
FROM student
WHERE Program = 'BSIT' AND Sex = 'M';
```

	Name	Campus	Email_Address
•	Cruz, Vito P.	Sun and Moon	vitocruz@gmail.com
	Cruz, Zenro P.	Biringan	CruzZenro@gmail.com

Problem Statement #3. Display applicant's name, program, address, and birthplace of those applicants who chose computer related courses as their program choice. Sort them according to their program in ascending order.

SELECT Name, Program, Permanent_Address, Birthplace FROM student WHERE Program = 'BSIT' OR Program = 'BSCS' OR Program = 'BSCPE' ORDER BY 2;

	Name	Program	Permanent_Address	Birthplace
Þ	Mekuto, Fukimo	BSCPE	789 Sunflower Street, Pasay City, Metro Manila	Tokyo, Japan
	Marcos, Rodrigo C.	BSCS	456 Orchid Avenue, Makati City, Metro Manila	Magsaysay, Davao City
	Sweep, Taylor A.	BSCS	Blk. 34 Lt. 9 Springdale Subd. Brgy. Dalig Angon	Washington, D.C.
	Tan, Johndee P.	BSCS	2 Aguilar, Project 7, Quezon City, Metro Manila	San Antonio
	Cruz, Vito P.	BSIT	Blk 9 Lot 2 Madrigal Compound, Brgy. Ilaya, La	Pasay, Metro Manila
	Batumbakal, Hayley B.	BSIT	8990 Urban Deca Homes Velasquez Tondo, Manila	Tondo, Manila
	Vun, Michelle P.	BSIT	Mla, 1550 Remigio St, Santa Cruz, Manila	Montpellier, France
	Cruz, Zenro P.	BSIT	427A Milaflor Subdivision, Balagtas	Bucaue, Bulacan

Problem Statement #4. Display the name, relationship, and occupation of the guardian who lives in Metro Manila.

SELECT Guardian_Name, Relationship, Occupation FROM guardian
WHERE Address LIKE '%Manila%' OR Address LIKE '%Maynila%';

	Guardian_Name	Relationship	Occupation	
١	Cruz, Rose P.	Mother	Doctor	
	Cruz, Albert C.	Father	Civil Engineer	
	Marcos, Imelda C.	Mother	Accountant	
	Marcos, Bobo M.	Uncle	Programmer	
	Mekuto, Paako	Aunt	Nurse	
	Mekuto, Uloko	Father	Police Officer	
	Yoo Chang-joon	Grandfather	Construction Worker	
	Cheon Se-ah	Grandmother	None	
	Pueblos, Leigh N.	Mother	Business Woman	
	Pueblos, Editha T.	Grandmother	None	
	Vun, Tyron P.	Father	CEO	
	Vun, Drake F.	Grandfather	Share Holder	
	Daguban, Nataly J.	Mother	Nurse	
	Daguban, Michae	Father	Programmer	
	Wolkzbin, Alodia C.	Aunt	CEO	
	Zamora, Felipe I.	Father	Firefighter	
	Tan, Kevin P.	Brother	Mechanic	
	Tan, Jacob P.	Father	Racer	
	Mateo, Jutsuga C.	Brother in Law	Governor	

Problem Statement #5. Display the name of school and school id of those previous school that has "high school" in its name.

```
SELECT Name_of_Previous_School, School_ID
FROM school
WHERE Name_of_Previous_School LIKE '%High School%';
```

	Name_of_Previous_School	School_ID
•	Pasay City National High School	305364
	Mandaluyong High School	305393
	Makati High School	305406
	Acacia National High School	305497
	Camarines Norte Chung Hua High School Foundation, Inc.	403633
	Ateneo De Davao University-Senior High School	405512
	Ateneo de Davao University-Senior High School	409956
	Bicol University College of Education Integrated Laboratory School - High School Department	600058

II. AVERAGE

Problem Statement #1. Count how many applicants chose BSA as their program by Campus. Do not include those students who are not Filipino.

```
SELECT Campus, COUNT(*) AS 'Number of BSA students' FROM student
WHERE Nationality = 'Filipino' AND Program = 'BSA'
GROUP BY Campus;
```

	Campus	Number of BSA students
•	Main	2
	Sun and Moon	1

Problem Statement #2. Display the number of guardians who are working by city.

```
SELECT G_City, COUNT(*) AS 'Number of Guardians' FROM guardian
WHERE Occupation NOT LIKE '%None%'
GROUP BY G_City;
```

	G_City	Number of Guardians
•	Las Pinas	2
	Makati	6
	Pasay	2
	Taguig	1
	Mandaluyong	1
	Angono	1
	Bustos	1
	Virac	1
	Sariaya	1
	San Luis	1
	Baliuag	2
	Binangonan	2
	Manila	2
	Malabon	1
	Quezon	2
	Bulacan	1

Problem Statement #3. Display the number of applicants per campus by Nationality. Arrange them according to their campus.

```
SELECT Nationality, Campus, COUNT(*) AS 'Total Applicants' FROM student GROUP BY Nationality, Campus ORDER BY 2;
```

	Nationality	Campus	Total Applicants
•	Filipino	Biringan	3
	Korean	Biringan	1
	Canadian	Biringan	1
	Japanese	Main	1
	Filipino	Main	2
	American	Main	2
	French	Main	1
	Filipino	Sun and Moon	3
	American	Sun and Moon	1

Problem Statement #4. Count how many applicants who received an academic award in his/her previous school by school id.

```
SELECT School_ID, COUNT(*) AS TOTAL FROM school
WHERE Class_Standing LIKE '%Honor%'
GROUP BY School_ID;
```

	School ID	TOTAL
•	1405510	1
-	1406760	1
	1406837	1
	1407242	1
	305393	1
	305406	1
	305497	1
	400669	1
	400678	1
	400690	1
	400942	4
	403633	1
	406668	1
	407829	1
	409956	1
	410669	1
	411669	1
	416360	1
	488070	1

Problem Statement #5. Count how many student applicants are born in the month of January, February, March, October and December and his/her postal code starts with 1 and ends with 0. Sort them according to their birthday in descending order.

```
SELECT month(Birthday) AS Birthmonth, Postal_Code, COUNT(*) AS
Total

FROM student

WHERE (month(Birthday) = 1 OR month(Birthday) = 12 OR
month(Birthday) = 10 OR month(Birthday) = 2 OR
month(Birthday) = 3) AND Postal_Code LIKE '1%0'

GROUP BY Birthday, Postal_Code

ORDER BY 1 DESC;
```

	Birthmonth	Postal_Code	Total
•	12	1550	1
	10	1940	1
	2	1740	1
	1	1200	1

III. DIFFICULT

Problem Statement #1. Display the admission number and student name of those applicants who is born on the year 2002. Include the guardian name and name of the previous school.

```
SELECT s.Admission_Number, s.Name, s.Birthday, g.Guardian_Name, sc.Name_of_Previous_School

FROM student AS s, guardian AS g, school AS sc

WHERE s.Admission_Number = g.Admission_Number AND

s.Admission_Number = sc.Admission_Number AND s.Birthday

LIKE '%2002%';
```

	Admission_Number	Name	Birthday	Guardian_Name	Name_of_Previous_School
•	202302	Marcos, Rodrigo C.	2002-01-01	Marcos, Imelda C.	Agro-Industrial Foundation College of the Philippines, Inc.
	202302	Marcos, Rodrigo C.	2002-01-01	Marcos, Imelda C.	Acacia National High School
	202302	Marcos, Rodrigo C.	2002-01-01	Marcos, Bobo M.	Agro-Industrial Foundation College of the Philippines, Inc.
	202302	Marcos, Rodrigo C.	2002-01-01	Marcos, Bobo M.	Acacia National High School
	202305	Pueblos, Regienald N.	2002-12-07	Pueblos, Leigh N.	Don Bosco Technical Institute of Makati, Inc.
	202305	Pueblos, Regienald N.	2002-12-07	Pueblos, Leigh N.	Makati High School
	202305	Pueblos, Regienald N.	2002-12-07	Pueblos, Editha T.	Don Bosco Technical Institute of Makati, Inc.
	202305	Pueblos, Regienald N.	2002-12-07	Pueblos, Editha T.	Makati High School
	202306	Sweep, Taylor A.	2002-05-29	Sweep, Troy C.	Marian College Baliuag
	202306	Sweep, Taylor A.	2002-05-29	Sweep, Troy C.	Our Lady Of Fatima
	202306	Sweep, Taylor A.	2002-05-29	Sweep, Megan A.	Marian College Baliuag
	202306	Sweep, Taylor A.	2002-05-29	Sweep, Megan A.	Our Lady Of Fatima
	202312	Daguban, Vincent J.	2002-01-09	Daguban, Nataly J.	AMA Computer College-Davao
4	202312	Daguban, Vincent J.	2002-01-09	Daguban, Nataly J.	Ateneo de Davao University-Senior High School
	202312	Daguban, Vincent J.	2002-01-09	Daguban, Michae	AMA Computer College-Davao
	202312	Daguban, Vincent J.	2002-01-09	Daguban, Michae	Ateneo de Davao University-Senior High School

Problem Statement #2. Display all student name and address of those applicants who are planning to enroll in BSIT program. Select only those who are living in Manila. Also include their previous school.

	Name	Permanent_Address	Previous_School
•	Cruz, Vito P.	Blk 9 Lot 2 Madrigal Compound, Brgy. Ilaya, Las Pinas, Metro Manila	Pasay City National High School
	Cruz, Vito P.	Blk 9 Lot 2 Madrigal Compound, Brgy. Ilaya, Las Pinas, Metro Manila	Pasay City Academy
	Batumbakal, Hayley B.	8990 Urban Deca Homes Velasquez Tondo, Manila	Living Angels Academy Baliuag
	Batumbakal, Hayley B.	8990 Urban Deca Homes Velasquez Tondo, Manila	University of Sto. Tomas
	Vun, Michelle P.	Mla, 1550 Remigio St, Santa Cruz, Manila	ABE International Business College Inc-Caloocan Campus
	Vun, Michelle P.	Mla, 1550 Remigio St, Santa Cruz, Manila	${\it Bicol University College of Education Integrated Laboratory School - High School Department}$

Problem Statement #3. Display student admission number and name who is not a Filipino citizen but living in Manila. Include their guardian philsys id, name, relationship, and contact number.

```
SELECT s.Admission_Number, s.Name, s.Permanent_Address, s.Nationality, g.Philsys_ID, g.Guardian_Name, g.Relationship, g.G_Contact_Number

FROM student AS s, guardian AS g

WHERE s.Admission_Number = g.Admission_Number AND s.Nationality <> 'Filipino' AND s.Permanent_Address

LIKE '%Manila%';
```

	Admission_Number	Name	Permanent_Address	Nationality	Philsys_ID	Guardian_Name	Relationship	G_Contact_Number
•	202303	Mekuto, Fukimo	789 Sunflower Street, Pasay City, Metro Manila	Japanese	777777777000	Mekuto, Paako	Aunt	09324443333
	202303	Mekuto, Fukimo	789 Sunflower Street, Pasay City, Metro Manila	Japanese	8888888888	Mekuto, Uloko	Father	09251112222
	202304	Im Na-Yeon	987 Lily Street, Taguig City, Metro Manila	Korean	111111111111111	Yoo Chang-joon	Grandfather	09477778888
	202304	Im Na-Yeon	987 Lily Street, Taguig City, Metro Manila	Korean	654321098000	Cheon Se-ah	Grandmother	09338889999
	202311	Vun, Michelle P.	Mla, 1550 Remigio St, Santa Cruz, Manila	French	134566299157	Vun, Tyron P.	Father	09461246695
	202311	Vun, Michelle P.	Mla, 1550 Remigio St, Santa Cruz, Manila	French	134672594325	Vun, Drake F.	Grandfather	09542643349
	202314	Tan, Johndee P.	2 Aguilar, Project 7, Quezon City, Metro Manila	American	332145692563	Tan, Kevin P.	cousin	09111238569
	202314	Tan, Johndee P.	2 Aguilar, Project 7, Quezon City, Metro Manila	American	654123987519	Tan, Jacob P.	Father	09888569632

Problem Statement #4. Display the admission number and name of those student applicants who chose Sun and Moon and Biringan campus as their campus choice and living outside Manila. Include their previous school from grade 11 to 12. Also, include their guardian name and relationship to it.

	Admission_Number	Name	Campus	Permanent_Address	Previous_School	Guardian_Name	Relationship
•	202308	Bravo, Johny B.	Sun and Moon	111 G. Del Pilar Street Catulinan San Luis Pampanga	Baliuag University	Flower, Toni A.	Aunt
	202308	Bravo, Johny B.	Sun and Moon	111 G. Del Pilar Street Catulinan San Luis Pampanga	Baliuag University	Bravo, Alberto A.	Father
	202310	North, Norberto P.	Biringan	Blk. 31 Lt. 10 Tulip Street Mahabang Parang Binangonan, Rizal	Colegio de San Juan de Letran	North, Mauui Y.	Father
	202310	North, Norberto P.	Biringan	Blk. 31 Lt. 10 Tulip Street Mahabang Parang Binangonan, Rizal	Colegio de San Juan de Letran	North, Moana A.	Mother
	202312	Daguban, Vincent J.	Sun and Moon	18b Tampingco, Village, Makati, Kalakhang Maynila	Ateneo de Davao University-Senior High School	Daguban, Nataly J.	Mother
	202312	Daguban, Vincent J.	Sun and Moon	18b Tampingco, Village, Makati, Kalakhang Maynila	Ateneo de Davao University-Senior High School	Daguban, Michael J.	Father
	202315	Cruz, Zenro P.	Biringan	427A Milaflor Subdivision, Balagtas	ABE International Business College Inc-Caloocan Campus	Mateo, Jutsuga C.	Brother in Law
	202315	Cruz, Zenro P.	Biringan	427A Milaflor Subdivision, Balagtas	ABE International Business College Inc-Caloocan Campus	Cruz, Caton C.	Father

Problem Statement #5. Display only those student that has previous school id starting with number 3. Also display the school address, school name, and their class standing.

	Name	School_ID	School_Name	School_Address	Class_Standing
•	Cruz, Vito P.	305364	Pasay City National High School	Tramo St., Pasay City	None
	Marcos, Rodrigo C.	305497	Acacia National High School	Acacia, Buhangin District, Davao City	With High Honors
	Im Na-Yeon	305393	Mandaluyong High School	Aglipay St., Mandaluyong City	With Highest Honors
	Pueblos, Regienald N.	305406	Makati High School	Gen. Luna Street, Makati City	With High Honors

APPENDIX A DATA INPUT

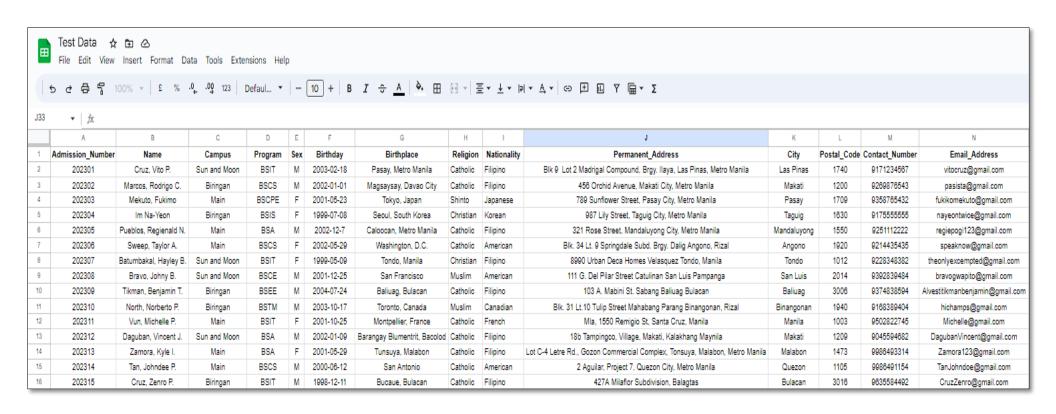


Table 4 Student Data

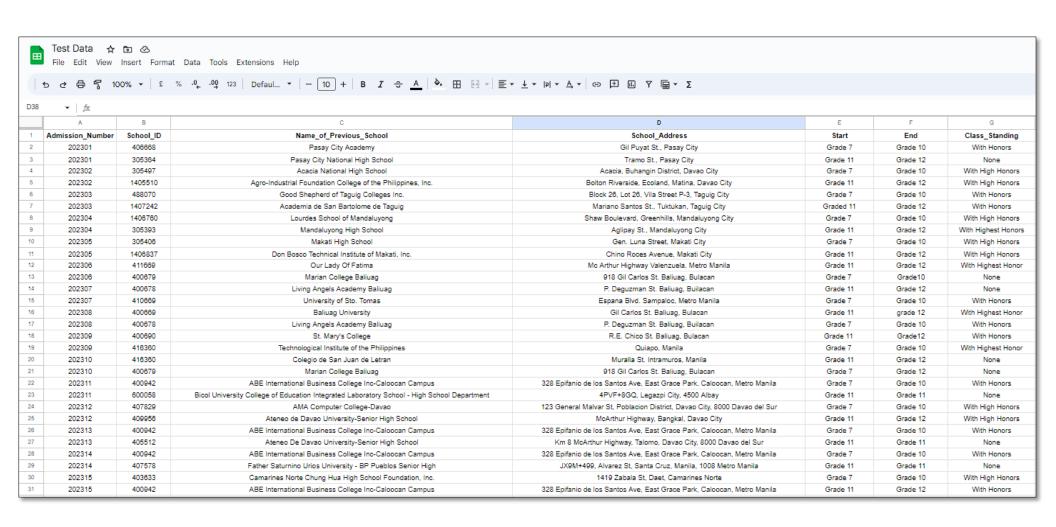


Table 5. School Data

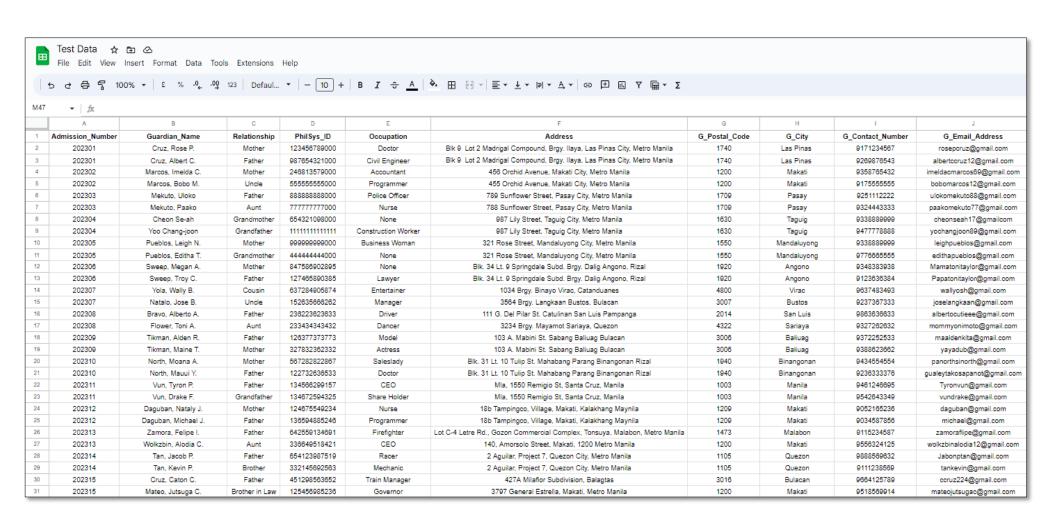


Table 7. Guardian Data

INTERNATIONAL STATE COLLEGE OF THE PHILIPPINES (ISCP) STUDENT ADMISSION SYSTEM

A System Proposal presented to the Faculty of the College of Computer and Information Sciences, Polytechnic University of the Philippines

In Partial Fulfillment for the Course

COMP 20093 – Information Management

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BSIT 2-1

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