

Computer Science Department
University of Computer & Emerging Sciences (FAST-NU)

HOME WORK ASSIGNMENT COVER SHEET

COURSE TITLE	DATABASE SYSTEMS		COURSE CODE	CS204	
INSTRUCTOR	DR. EJAZ AHMED	TYPE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(Please tick)
			Indiv.	Group	
ASSIGNMENT NO					
ASSIGNMENT	Lab Project – Hamarey Bachchey System				
HAND OUT DATE	23-APR-2020	DUE DATE	15-MAY2020(Acceptable till 5-JUNE-2020)		
ESTIMATE TIME	50 Hours				

ASSESSMENT CRITERIA (or attached)	% Mark
Instructions to Candidate: Grade distribution is Attached Subission: Print & online Tools: Oracle Database & PHP Group of max 4 students is allowed, individual work is discouraged with 10% deduction	

TO BE COMPLETED BY STUDENT (TEAM LEAD)	GROUP
MEMBERS ID	
NAME <u>Haroon Ali</u>	ID 18I-0737 Sec# D
ID NO <u>18I-0737</u> SECTION: CS-D	ID 18I-0621 Sec# D
Time Taken	ID 18I-0731 Sec# D
	ID 18I-474 Sec# D
DECLARATION: I/We declare that this Coursework is my/our group's own work	
SIGNATURES (All members)	

Introduction:

The task provided to us was to design and develop a database for an NGO 'Hamary Bachchey'. First of all, we analyzed the system requirements for this given project. Then we made few assumptions regarding the design. According to those assumptions we represented the requirement into logical design using ER model.

We split the workflow in the following steps:

- 1) Read the document thoroughly and make some assumptions
- 2) Based on those assumptions, make ER diagram
- 3) From ER diagram, make a relational schema
- 4) From relational schema we made tables using SQL DML and DDL
- 5) Then we added the datasets into those tables.
- 6) Make required queries
- 7) Use PHP and Oracle to create UI of Forms and Reports

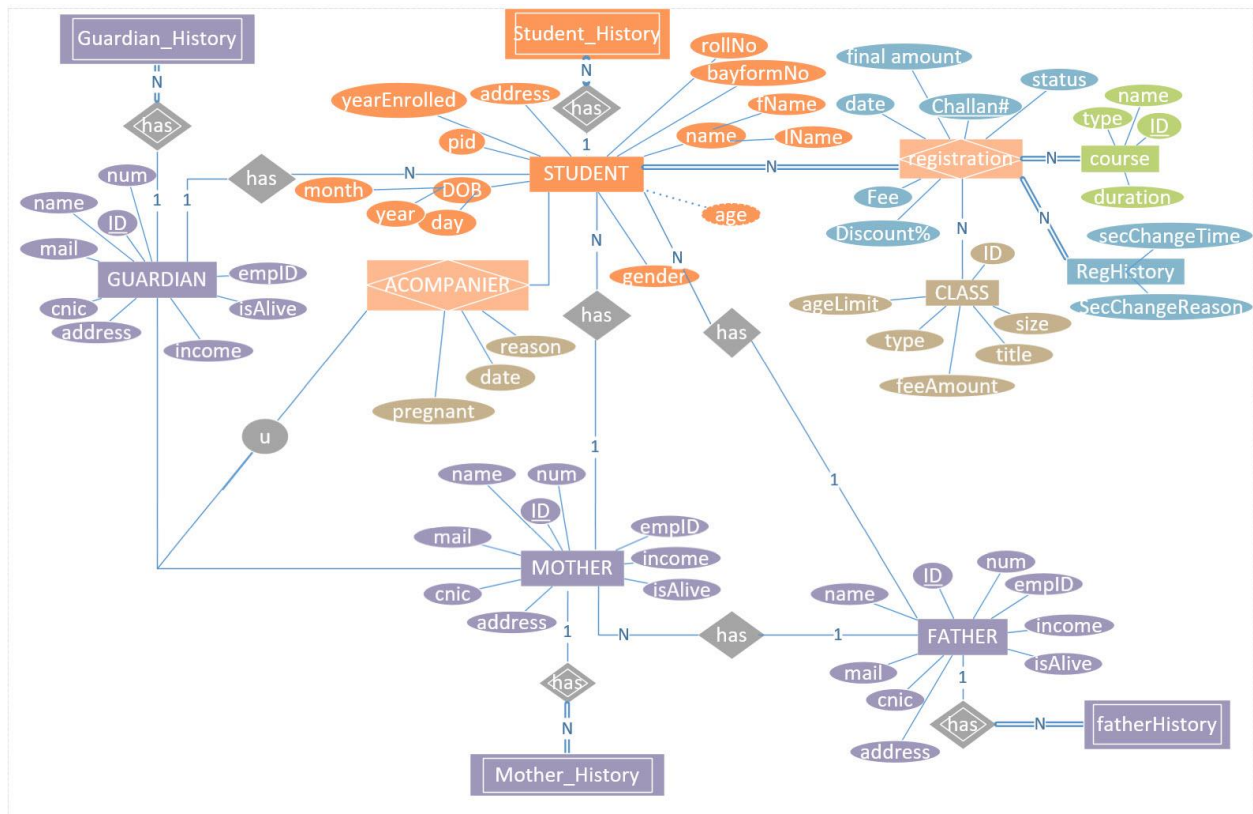
Assumptions:

After reading the document few times, we grasp the following main points. Moreover, we made some assumptions from ourselves, which we think were essential for our ER diagram and relational schema.

- 1) We made assumptions that we will be given father, mother, and guardian information no matter what. So, we made separate entities of father, mother and guardian.
- 2) One of either could accompany the child either the mother or the female guardian.
- 3) Fee is only paid once the course is registered.
- 4) Whenever a tuple of student, guardian, mother or father is changed, it is stored in their History table which is made dependent.
- 5) Fee is calculated with the discount in mind,
 - i) if child has more than 3 siblings, we will give some percentage of discount
 - ii) if its employee child, we will give full discount.
- 6) Sections are made dynamic; in a manner that new sections are made automatically when a certain limit is crossed in one class.

Entity Relationship Diagram:

After brainstorming all the main points and assumptions, we made a simple Entity Relationship Diagram (ERD). Which we revised later and made few changes here and there. After few iterations, the final version looks like this.



Schema Diagram:

When we finalized our ER diagram, we started working on blueprint of a database that outlines the way its structure organizes data into tables.

STUDENT

Name	<u>RollNo</u>	DOB	Gender	Age	BayFormNo	yearEnrolled	glD	fid	mID
------	---------------	-----	--------	-----	-----------	--------------	-----	-----	-----

STUDENT_History

<u>Sno</u>	<u>rollNo</u>	Name	bayForm	gender	DOB	yearEnrolled	fid	mID	glD	relation
------------	---------------	------	---------	--------	-----	--------------	-----	-----	-----	----------

FATHER

<u>ID</u>	Name	emplID	income	cnic	mail	num	isAlive	address
-----------	------	--------	--------	------	------	-----	---------	---------

FATHER_History

<u>Sno</u>	<u>ID</u>	Name	emplID	income	cnic	mail	num	isAlive	address
------------	-----------	------	--------	--------	------	------	-----	---------	---------

MOTHER

<u>ID</u>	Name	emplID	income	cnic	mail	num	isAlive	address
-----------	------	--------	--------	------	------	-----	---------	---------

MOTHER_History

<u>Sno</u>	<u>ID</u>	Name	emplID	income	cnic	mail	num	isAlive	address
------------	-----------	------	--------	--------	------	------	-----	---------	---------

GUARDIAN

<u>ID</u>	Name	emplID	income	cnic	mail	num	isAlive	address
-----------	------	--------	--------	------	------	-----	---------	---------

GUARDIAN_History

<u>Sno</u>	<u>ID</u>	Name	emplID	income	cnic	mail	num	isAlive	address	gender
------------	-----------	------	--------	--------	------	------	-----	---------	---------	--------

registration

classCount	<u>Challan#</u>	Fee	Dicount%	R_status	R_date	Final amount	<u>s_rollNo</u>	cID
------------	-----------------	-----	----------	----------	--------	--------------	-----------------	-----

course

<u>ID</u>	name	type	duration	Fee	status	Age
-----------	------	------	----------	-----	--------	-----

RegHistory

<u>sno</u>	<u>Challan#</u>	<u>s_rollNo</u>	Cl_ID	Co_ID	feeAmount	Dicount%	R_status	R_date	ection Change Reason	Section change time
------------	-----------------	-----------------	-------	-------	-----------	----------	----------	--------	----------------------	---------------------

CLASS

<u>ID</u>	Section	size	Name	title
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Accompanier

reason	<u>date</u>	pregnant	<u>s_rollNo</u>	ID
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Table Descriptions:**STUDENT:**

Attributes	Description	Constraints	Type
Name	Name of the student	NOT NULL	Varchar2(30)
RollNo	Primary key of table	INDEX	Varchar2(9)
DOB	Derived attribute date of birth	Date, Not Null	Date
Gender	Gender of the student	M or F, NOT NULL	Varchar2(1)
Age	Age of the student	NOT NULL	Date
BayformNo	Bayform No provided by NADRA	UNIQUE	Varchar2(13)
yearEnrolled	Year since student is studying	NOT NULL	Date
gID	FK from table GUARDIAN	NOT NULL	Varchar2(9)
fID	FK from table FATHER	NOT NULL	Varchar2(9)
mID	FK from table MOTHER	NOT NULL	Varchar2(9)

STUDENT_History:

Attributes	Description	Constraints	Type
sno	Serial number	INDEX	Number
Name	Name of the student	NOT NULL	Varchar2(30)
RollNo	FK from STUDENT table	INDEX	Number(12)
DOB	Derived attribute date of birth	Date, NOT NULL	Date
Gender	Gender of the student	M or F, NOT NULL	Varchar2(1)
Age	Age of the student	NOT NULL	Date
BayformNo	Bayform No provided by NADRA	NOT NULL	Number(12)
yearEnrolled	Year since student is studying	Date, NOT NULL	Date
gID	Foreign key from table Guardian	NOT NULL	Varchar2(9)
fID	Foreign key from table Father	NOT NULL	Varchar2(9)

mID	Foreign key from table Mother	NOT NULL	Varchar2(9)
relation	Relation with guradian	NOT NULL	varchar2(10)

FATHER:

Attributes	Description	Constraints	Type
ID	Primary key for this table	PK	Varchar(9)
Name	Name of the student	NOT NULL	Varchar(30)
empID	Unique employee id	NOT NULL	Varchar(30)
DOB	Derived attribute date of birth	Date, NOT NULL	date
income	Yearly income	NOT NULL	number(10)
cnic	Unique identity number	UNIQUE, NOT NULL	Varchar(9)
mail	Email address	NOT NULL	Varchar(9)
num	Phone number	NOT NULL	Number(11)
isAlive	Whether father is alive or dead	Yes or No, NOT NULL	Varchar2(1)
address	Physical, permanent address	NOT NULL	Varchar(100)

FATHER_History:

Attributes	Description	Constraints	Type
sno	Serial number	NOT NULL	Number
ID	Foreign key from table FATHER	UNIQUE	Varchar2(9)
Name	Name of the student	NOT NULL	Varchar2(30)
empID	Unique employee id	UNIQUE, NOT NULL	Varchar2(30)
income	Yearly income	NOT NULL	Number
cnic	Unique identity number	UNIQUE, NOT NULL	Varchar2(13)
mail	Email address	UNIQUE, NOT NULL	Varchar2(50)
num	Phone number	NOT NULL	Number
isAlive	Whether father is alive or dead	Yes or No, NOT NULL	Varchar2(100)
address	Physical, permanent address	NOT NULL	Number

MOTHER:

Attributes	Description	Constraints	Type
ID	Primary key for this table	UNIQUE, PK	Varchar(9)
Name	Name of the student	NOT NULL	Varchar(30)
empID	Unique employee id	NOT NULL	Varchar(30)
DOB	Derived attribute date of birth	Date, NOT NULL	date
income	Yearly income	NOT NULL	number(10)
cnic	Unique identity number	UNIQUE, NOT NULL	Varchar(9)
mail	Email address	UNIQUE, NOT NULL	Varchar(9)
num	Phone number	NOT NULL	Number(11)
isAlive	Whether father is alive or dead	Yes or No, NOT NULL	Varchar2(1)
address	Physical, permanent address	NOT NULL	Varchar(100)

MOTHER_History:

Attributes	Description	Constraints	Type
sno	Serial number		Number
ID	Foreign key from table MOTHER	UNIQUE, NOT NULL, PK	Varchar2(9)
Name	Name of the student	NOT NULL	Varchar2(30)
empID	Unique employee id	UNIQUE, NOT NULL	Varchar2(30)
income	Yearly income	NOT NULL	Number
cnic	Unique identity number	UNIQUE, NOT NULL	Varchar2(13)
mail	Email address	UNIQUE, NOT NULL	Varchar2(50)
num	Phone number	NOT NULL	Number
isAlive	Whether father is alive or dead	Yes or No, NOT NULL	Varchar2(100)
address	Physical, permanent address	NOT NULL	Number

GUARDIAN:

Attributes	Description	Constraints	Type
ID	Primary key for this table	PK, UNIQUE	Varchar(9)
Name	Name of the student	NOT NULL	Varchar(30)
empID	Unique employee id	UNIQUE, NOT NULL	Varchar(30)

DOB	Derived attribute date of birth	Date, NOT NULL	date
income	Yearly income	NOT NULL	number(10)
cnic	Unique identity number	UNQIUE, NOT NULL	Varchar(13)
mail	Email address	UNQIUE, NOT NULL	Varchar(9)
num	Phone number	NOT NULL	Number(11)
address	Physical, permanent address	NOT NULL	Varchar(100)

GUARDIAN _History:

Attributes	Description	Constraints	Type
sno	Serial number	UNQIUE,	Number
ID	Foreign key from table GUARDIAN	UNQIUE	Varchar2(9)
Name	Name of the student	NOT NULL	Varchar2(30)
empID	Unique employee id	NOT NULL	Varchar2(30)
income	Yearly income	NOT NULL	Number
cnic	Unique identity number	UNQIUE, NOT NULL	Varchar2(13)
mail	Email address	UNQIUE, NOT NULL	Varchar2(50)
num	Phone number	NOT NULL	Number
address	Physical, permanent address	NOT NULL	Varchar2(100)

Registration:

Attributes	Description	Constraints	Type
classCount	Total strength of the class	NOT NULL	Number
Challan#	Primary key for this table	UNQIUE	Varchar2(9)
Fee	One time payable fee	NOT NULL	Number(5)
Discount%	Discount a student got due to some special status	NOT NULL	Number(3)
R_Status	Show whether the student is registered or not	NOT NULL	Varchar2(10)

R_date	Date at which the student is registered	Date, NOT NULL	date
finalAmount	Total final amount payable after calculation	NOT NULL	Number(5)
S_rollNo	foreignKey from student table	NOT NULL	Varchar2(9)
clD	Foreign key from course table	NOT NULL	Varchar2(9)

COURSE:

Attributes	Description	Constraints	Type
ID	Primary key for this table	PK	Varchar2(9)
Name	Name of the course	NOT NULL	Varchar2(30)
type	Category the course belongs to	NOT NULL	Carchar2(10)
duration	Duration of the course in months	NOT NULL	Varchar2(10)
Fee	Fee for this course	NOT NULL	Number(5)
status	Whether the course is currently available or not	NOT NULL	Varchar2(10)
Age	Age group this course is thought to	NOT NULL	Number(3)

Reg_History:

Attributes	Description	Constraints	Type
sno	Serial number	PK	Number
Challan#	FK from Registration table	FK	Varchar2(9)
RollNo	Foreign key from student table	UNQIUE, NOT NULL	Varchar2(9)
Cl_ID	Foreign key from class table	NOT NULL	Number
Co_ID	Foreign key from course table	NOT NULL	Varchar2(9)
feeAmount	Total fee student have to submit	NOT NULL	Number(5)

Discount%	Discount a student got due to some special status	NOT NULL	Number(3)
R_status	Registration status	NOT NULL	Varchar2(200)
R_date	Registration date	Date, NOT NULL	Date
Section change reason	Reason why the student changed the section		Varchar2(200)
Section change time	When the student changed the section	Date, NOT NULL	date

CLASS:

Attributes	Description	Constraints	Type
ID	Primary key for this table	PK	Number(10)
Section	Class section	NOT NULL	Varchar(1)
size	Total strength of the class	NOT NULL	Number(4)
Title	Title of the class	NOT NULL	Varchar(20)

Accompanier:

Attributes	Description	Constraints	Type
ID	Primary key for this table	PK	Varchar2(9)
S_rollNo	Foreign key from student table	UNIQUE, NOT NULL	Varchar2(9)
date	When parent got accompanied with the student	Date, NOT NULL	Date
reason	Why parent accompanied student	NOT NULL	Varchar2(50)
pregnant	Whether she's pregnant or not	NOT NULL	Varchar2(10)

Queries:

After creation of database we filled it with 32 students, here are output of some of the queries we ran on SQL Plus.

```
--query1
```

```
select * from student;
```

SQL>

SQL> select * from student;

S_ROLLNUM	S_NAME	S_BAYFORMNO	S DOB	S_YEAREN	R
F_ID	M_ID	G_ID	G_RELATION		
20S-1	hamza	1232132	M 17-DEC-15	07-JUN-20	
F_1	M_8	G_1	Uncle		
20S-2	haroon	432423432	M 17-DEC-16	07-JUN-20	
F_2	M_7	G_5	Aunt		
20S-3	faraz	4324234232	M 17-DEC-11	07-JUN-20	
F_1	M_8	G_2	Uncle		

S_ROLLNUM	S_NAME	S_BAYFORMNO	S DOB	S_YEAREN	R
F_ID	M_ID	G_ID	G_RELATION		
20S-4	Ahnuf	432446777	M 17-DEC-16	07-JUN-20	
F_2	M_7	G_6	Aunt		
20S-5	momin	423432432	M 07-NOV-14	07-JUN-20	
F_3	M_6	G_1	Uncle		
20S-6	shaheer	432423432	M 04-JUL-11	07-JUN-20	
F_4	M_5	G_7	Aunt		

S_ROLLNUM	S_NAME	S_BAYFORMNO	S DOB	S_YEAREN	R
F_ID	M_ID	G_ID	G_RELATION		
20S-7	mudassir	432748327	M 09-AUG-12	07-JUN-20	
F_5	M_4	G_4	G.father		
20S-8	saram	432446777	M 17-OCT-07	07-JUN-20	
F_2	M_7	G_8	G.mother		
20S-9	mariyam	1232132	F 17-DEC-15	07-JUN-20	
F_1	M_8	G_1	Uncle		

S_ROLLNUM	S_NAME	S_BAYFORMNO	S DOB	S_YEAREN	R
F_ID	M_ID	G_ID	G_RELATION		
20S-10	jannat	432423432	F 17-DEC-16	07-JUN-20	
F_2	M_7	G_5	Aunt		
20S-11	arfa	4324234232	F 17-DEC-11	07-JUN-20	
F_1	M_8	G_2	Uncle		
20S-12	sumaya	3423423	F 17-DEC-16	07-JUN-20	
F_2	M_7	G_6	Aunt		

S_ROLLNUM	S_NAME			S_BAYFORMNO	S	DOB	S_YEAREN
F_ID	M_ID	G_ID	G_RELATION				
20S-13 F_3	sadia M_6	G_1	Uncle	342342	F	07-NOV-10	07-JUN-20
20S-14 F_8	nimra M_2	G_7	Aunt	432423432	F	04-JUL-09	07-JUN-20
20S-15 F_5	hadia M_4	G_4	G.father	432748327	F	09-AUG-05	07-JUN-20
S_ROLLNUM	S_NAME			S_BAYFORMNO	S	DOB	S_YEAREN
F_ID	M_ID	G_ID	G_RELATION				
20S-16 F_5	wajeeha M_3	G_8	G.mother	432446777	F	17-OCT-07	07-JUN-20
20S-17 F_1	huzaiifa M_8	G_1	Uncle	1232132	M	17-DEC-15	07-JUN-20
20S-18 F_2	rohail M_7	G_5	Aunt	432423432	M	17-DEC-16	07-JUN-20
S_ROLLNUM	S_NAME			S_BAYFORMNO	S	DOB	S_YEAREN
F_ID	M_ID	G_ID	G_RELATION				
20S-19 F_1	ruhaan M_8	G_2	Uncle	4324234232	M	17-DEC-11	07-JUN-20
20S-20 F_2	zayn M_7	G_6	Aunt	432446777	M	17-DEC-16	07-JUN-20
20S-21 F_3	humayu M_6	G_1	Uncle	423432432	M	07-NOV-14	07-JUN-20
S_ROLLNUM	S_NAME			S_BAYFORMNO	S	DOB	S_YEAREN
F_ID	M_ID	G_ID	G_RELATION				
20S-22 F_4	faizan M_5	G_7	Aunt	432423432	M	04-JUL-11	07-JUN-20
20S-23 F_5	iqrar M_4	G_4	G.father	432748327	M	09-AUG-12	07-JUN-20

```

S_ROLLNUM S_NAME                                S_BAYFORMNO S DOB          S_YEAREN
-----
F_ID      M_ID      G_ID      G_RELATION
-----
20S-25    nida      G_1      Uncle          1232132 F 17-DEC-15 07-JUN-20
F_1      M_8
20S-26    haniya    G_5      Aunt           432423432 F 17-DEC-16 07-JUN-20
F_2      M_7
20S-27    fatima    G_2      Uncle          4324234232 F 17-DEC-11 07-JUN-20
F_1      M_8

S_ROLLNUM S_NAME                                S_BAYFORMNO S DOB          S_YEAREN
-----
F_ID      M_ID      G_ID      G_RELATION
-----
20S-28    abeeha    G_6      Aunt           3423423 F 17-DEC-16 07-JUN-20
F_2      M_7
20S-29    abeera    G_1      Uncle          342342 F 07-NOV-10 07-JUN-20
F_3      M_6
20S-30    rabbia    G_7      Aunt           432423432 F 04-JUL-09 07-JUN-20
F_8      M_2

S_ROLLNUM S_NAME                                S_BAYFORMNO S DOB          S_YEAREN
-----
F_ID      M_ID      G_ID      G_RELATION
-----
20S-31    sehr      G_4      G.father       432748327 F 09-AUG-05 07-JUN-20
F_5      M_4
20S-32    raazia    G_8      G.mother       432446777 F 17-OCT-07 07-JUN-20
F_5      M_3

32 rows selected.

SQL>

```

```

--query 2
select distinct m.m_name wife_name,m.m_cnic wife_cnic,m.
m_num wife_num,m.m_mail wife_mail,m.m_income wife_mail,m
.m_isalive wife_isalive,m.m_emp_id wife_emp_id,f.f_name
husband_name from student s,father f,mother m where s.f_
id=f.f_id and s.m_id = m.m_id order by husband_name;

```


WIFE_NAME	WIFE_CNIC	WIFE_NUM
WIFE_MAIL		WIFE_MAIL W
WIFE_EMP_ID	HUSBAND_NAME	
Azqa	33202319931	3226688184
Azqa@hotmail.com		54321 1
0	Ahsan	
Alizah	33206232121	3026688914
Sarah@yahoo.com		123122 1
0	Ahsan	
WIFE_NAME	WIFE_CNIC	WIFE_NUM
WIFE_MAIL		WIFE_MAIL W
WIFE_EMP_ID	HUSBAND_NAME	
Farzana	33206111121	3026011914
farzana@yahoo.com		553122 1
0	Ali	
Sundus	33202222931	3221111184
sundus@hotmail.com		54737 1
WIFE_NAME	WIFE_CNIC	WIFE_NUM
WIFE_MAIL		WIFE_MAIL W
WIFE_EMP_ID	HUSBAND_NAME	
0	Aslam	
Sarah	3333331121	3012688384
sarah@outlook.com		7565 1
0	Bhola	
Farah	3311651131	3021088124
WIFE_NAME	WIFE_CNIC	WIFE_NUM
WIFE_MAIL		WIFE_MAIL W
WIFE_EMP_ID	HUSBAND_NAME	
Farah@gmail.com		112211 1
0	Piyare Afzal	
Aqsa	3320651121	3026688124
aqsa@gmail.com		432211 1
0	saqib	

7 rows selected.

```
--query 3
```

```
select g.g_name,s_name,g_relation from student s, guardian g where s.g_id = g.g_id order by g_relation;
```

G_NAME	S_NAME	G_RELATION
Zainish	shaheer	Aunt
Zainish	faizan	Aunt
Aiza	rohail	Aunt
Aiza	jannat	Aunt
Aiza	haroon	Aunt
Zainish	nimra	Aunt
Zainish	rabbia	Aunt
Uzma	abeeha	Aunt
Uzma	sumaya	Aunt
Uzma	Ahnuf	Aunt
Uzma	zayn	Aunt

G_NAME	S_NAME	G_RELATION
Aiza	haniya	Aunt
waseem	hadia	G.father
waseem	mudassir	G.father
waseem	iqrar	G.father
waseem	sehr	G.father
hibba	mujahid	G.mother
hibba	raazia	G.mother
hibba	saram	G.mother
hibba	wajeeha	G.mother
Raja	abeera	Uncle
Raja	momin	Uncle

G_NAME	S_NAME	G_RELATION
Raja	nida	Uncle
Raja	mariyam	Uncle
Raja	hamza	Uncle
Haseeb	ruhaan	Uncle
Raja	humayu	Uncle
Raja	huzaifa	Uncle
Haseeb	arfa	Uncle
Haseeb	fatima	Uncle
Haseeb	faraz	Uncle
Raja	sadia	Uncle

32 rows selected.


```
--query 4
```

```
select f.f_name,m.m_name,a.s_name from student a, father  
f, mother m where a.f_id = f.f_id and a.m_id = m.m_id;
```

F_NAME	M_NAME
saqib rabbia	Aqsa
saqib nimra	Aqsa
Ahsan raazia	Azqa

F_NAME	M_NAME
Ahsan wajeeha	Azqa
Ahsan sehr	Alizah
Ahsan iqrar	Alizah

F_NAME	M_NAME
Ahsan hadia	Alizah
Ahsan mudassir	Alizah
Bhola faizan	Sarah

F_NAME	M_NAME
Bhola shaheer	Sarah
Piyare Afzal abeera	Farah
Piyare Afzal humayu	Farah

F_NAME	M_NAME
S_NAME	
Piyare Afzal sadia	Farah
Piyare Afzal momin	Farah
Aslam abeeha	Sundus
F_NAME	M_NAME
S_NAME	
Aslam haniya	Sundus
Aslam mujahid	Sundus
Aslam zayn	Sundus
F_NAME	M_NAME
S_NAME	
Aslam rohail	Sundus
Aslam sumaya	Sundus
Aslam jannat	Sundus
F_NAME	M_NAME
S_NAME	
Aslam saram	Sundus
Aslam Ahnuf	Sundus
Aslam haroon	Sundus

```
--query 5
create view unique_parents as select distinct f_id,m_id
from student;
drop view siblings;
create view siblings as select s.s_rollnumber,s.f_id,s.m_id from student s ,unique_parents u where u.f_id = s.f_id and u.m_id = s.m_id;
select * from siblings;
select r.class_id,s.s_rollnumber,std.s_name,f.f_name,m.m_name from registration r, siblings s,mother m, father f , student std where s.s_rollnumber = std.s_rollnumber and s.F_ID = f.f_id and s.M_ID = m.m_id and s.s_rollnumber = r.S_ROLLNUMBER order by r.class_id;
```

S_ROLLNUM	F_ID	M_ID
20S-1	F_1	M_8
20S-2	F_2	M_7
20S-3	F_1	M_8
20S-4	F_2	M_7
20S-5	F_3	M_6
20S-6	F_4	M_5
20S-7	F_5	M_4
20S-8	F_2	M_7
20S-9	F_1	M_8
20S-10	F_2	M_7
20S-11	F_1	M_8

S_ROLLNUM	F_ID	M_ID
20S-12	F_2	M_7
20S-13	F_3	M_6
20S-14	F_8	M_2
20S-15	F_5	M_4
20S-16	F_5	M_3
20S-17	F_1	M_8
20S-18	F_2	M_7
20S-19	F_1	M_8
20S-20	F_2	M_7
20S-21	F_3	M_6
20S-22	F_4	M_5

S_ROLLNUM	F_ID	M_ID
20S-23	F_5	M_4
20S-24	F_2	M_7
20S-25	F_1	M_8
20S-26	F_2	M_7
20S-27	F_1	M_8
20S-28	F_2	M_7
20S-29	F_3	M_6
20S-30	F_8	M_2
20S-31	F_5	M_4
20S-32	F_5	M_3

32 rows selected.

CLASS_ID		S_ROLLNUM	S_NAME		
F_NAME			M_NAME		
Ali	100	20S-9	mariyam	Farzana	
	100	20S-10	jannat	Sundus	
Aslam	100	20S-1	hamza	Farzana	
CLASS_ID		S_ROLLNUM	S_NAME		
F_NAME			M_NAME		
Aslam	100	20S-2	haroon	Sundus	
	100	20S-4	Ahnuf	Sundus	
Aslam	101	20S-25	nida	Farzana	
CLASS_ID		S_ROLLNUM	S_NAME		
F_NAME			M_NAME		
Aslam	101	20S-18	rohail	Sundus	
	101	20S-20	zayn	Sundus	
Aslam	101	20S-12	sumaya	Sundus	
CLASS_ID		S_ROLLNUM	S_NAME		
F_NAME			M_NAME		
Ali	101	20S-17	huzaiifa	Farzana	
	102	20S-28	abeeha	Sundus	
Aslam	102	20S-26	haniya	Sundus	
CLASS_ID		S_ROLLNUM	S_NAME		
F_NAME			M_NAME		
Piyare Afzal	200	20S-21	humayu	Farah	
	201	20S-5	momin	Farah	
Piyare Afzal	300	20S-7	mudassir	Alizah	

CLASS_ID S_ROLLNUM S_NAME				
F_NAME			M_NAME	
Ali	300	20S-11	arfa	Farzana
	300	20S-6	shaheer	
Bhola	300	20S-19	ruhaan	Sarah
Ali				Farzana
CLASS_ID S_ROLLNUM S_NAME				
F_NAME			M_NAME	
Ali	301	20S-3	faraz	Farzana
	301	20S-27	fatima	
Ali	301	20S-22	faizan	Sarah
Bhola				
CLASS_ID S_ROLLNUM S_NAME				
F_NAME			M_NAME	
Ahsan	301	20S-23	iqrar	Alizah
	400	20S-24	mujahid	
Aslam	400	20S-8	saram	Sundus
Aslam				
CLASS_ID S_ROLLNUM S_NAME				
F_NAME			M_NAME	
saqib	400	20S-14	nimra	Aqsa
	400	20S-13	sadia	
Piyare Afzal	400	20S-16	wajeeha	Farah
Ahsan				Azqa
CLASS_ID S_ROLLNUM S_NAME				
F_NAME			M_NAME	
Ahsan	401	20S-32	raazia	Azqa
	401	20S-30	rabbia	
saqib	401	20S-29	abeera	Aqsa
Piyare Afzal				Farah
CLASS_ID S_ROLLNUM S_NAME				
F_NAME			M_NAME	
Ahsan	500	20S-31	sehr	Alizah
	502	20S-15	hadia	
Ahsan				Alizah
32 rows selected.				

```

create view male1 as select count('M') male,r.class_id f
rom student s,registration r where s.s_rollnumber = r.s_
rollnumber and s.s_gender = 'M' group by class_id;
create view female1 as select count('M') female,r.class_
id from student s,registration r where s.s_rollnumber =
r.s_rollnumber and s.s_gender = 'F' group by class_id;
create view boht as select m.male,f.female,m.class_id fr
om male1 m,female1 f where m.class_id = f.class_id;
create view un_male as
select class_id from male1
minus
select class_id from boht;

create view un_female as
select class_id from female1
minus
select class_id from boht;

select b.class_id,male,female,male+female from boht b
union
select class_id,(select male from male1 m where un.class
_id=m.class_id) ,NULL, (select male from male1 m where u
n.class_id=m.class_id) from un_male un
union
select class_id,NULL,(select female from female1 m where
un.class_id=m.class_id) ,(select female from female1 m
where un.class_id=m.class_id) from un_female un;

```

CLASS_ID	MALE	FEMALE	MALE+FEMALE
100	3	2	5
101	3	2	5
102		2	2
200	1		1
201	1		1
300	3	1	4
301	3	1	4
400	2	3	5
401		3	3
500		1	1
502		1	1

11 rows selected.

```
SQL> drop view Registration_Count;
```

View dropped.

```
--Selects Max SNO for each Student
create view Registration_Count as
select count(sno) Max_Sno, s_rollnumber from Registratio
n_History group by s_rollnumber;

select * from Registration_Count;

drop view Last_Class;
```

MAX_SNO	S_ROLLNUM
2	20S-15
1	20S-3
1	20S-5

```
--selects students who changed their class
create view Class_Change as
select s.s_name, rgm.s_rollnumber, rgm.class_id, lc.cl_i
d
from Registration_Gap_Month rgm, Last_Class lc, Student
s
where (rgm.s_rollnumber = lc.s_rollnumber and rgm.class_
id != lc.cl_id and s.S_ROLLNUMBER = lc.s_rollnumber);
```

```
select * from class_change;
```

S_NAME	S_ROLLNUM	CLASS_ID	CL_ID
hadia	20S-15	502	501
faraz	20S-3	301	300
momin	20S-5	201	200

--Query 7

```
select na.s_rollnumber, s.s_name, r.class_id
from New_Admissions na, Registration r, student s
where na.s_rollnumber = r.s_rollnumber and na.s_rollnumber = s.s_rollnumber
order by r.class_id;
```

S_ROLLNUM	S_NAME	CLASS_ID
20S-1	hamza	100
20S-2	haroon	100
20S-4	Ahnuf	100
20S-10	jannat	100
20S-9	mariyam	100
20S-18	rohail	101
20S-25	nida	101
20S-20	zayn	101
20S-17	huzaiifa	101
20S-12	sumaya	101
20S-28	abeeha	102
20S-26	haniya	102
20S-21	humayu	200
20S-7	mudassir	300
20S-6	shaheer	300
20S-11	arfa	300
20S-19	ruhaan	300
20S-23	iqrar	301
20S-27	fatima	301
20S-22	faizan	301
20S-8	saram	400
20S-16	wajeeha	400
20S-24	mujahid	400
20S-13	sadia	400
20S-14	nimra	400
20S-30	rabbia	401
20S-32	raazia	401
20S-29	abeera	401
20S-31	sehr	500

29 rows selected.

```
--Query 8
select na.s_rollnumber,s.s_name, f.f_name,m.m_name
from New_Admissions na, student s, father f, mother m
where na.s_rollnumber = s.s_rollnumber and s.f_id = f.f
_id and s.m_id = m.m_id;
```


S_ROLLNUM	S_NAME	F_NAME
M_NAME		
20S-1 Farzana	hamza	Ali
20S-10 Sundus	jannat	Aslam
20S-11 Farzana	arfa	Ali
S_ROLLNUM	S_NAME	F_NAME
M_NAME		
20S-12 Sundus	sumaya	Aslam
20S-13 Farah	sadia	Piyare Afzal
20S-14 Aqsa	nimra	saqib
S_ROLLNUM	S_NAME	F_NAME
M_NAME		
20S-16 Azqa	wajeeha	Ahsan
20S-17 Farzana	huzaiifa	Ali
20S-18 Sundus	rohail	Aslam
S_ROLLNUM	S_NAME	F_NAME
M_NAME		
20S-19 Farzana	ruhaan	Ali
20S-2 Sundus	haroon	Aslam
20S-20 Sundus	zayn	Aslam
S_ROLLNUM	S_NAME	F_NAME
M_NAME		
20S-21 Farah	humayu	Piyare Afzal
20S-22 Sarah	faizan	Bhola
20S-23 Alizah	iqrar	Ahsan

S_ROLLNUM	S_NAME	F_NAME
M_NAME		
20S-24 Sundus	mujahid	Aslam
20S-25 Farzana	nida	Ali
20S-26 Sundus	haniya	Aslam
S_ROLLNUM	S_NAME	F_NAME
M_NAME		
20S-27 Farzana	fatima	Ali
20S-28 Sundus	abeeha	Aslam
20S-29 Farah	abeera	Piyare Afzal
S_ROLLNUM	S_NAME	F_NAME
M_NAME		
20S-30 Aqsa	rabbia	saqib
20S-31 Alizah	sehr	Ahsan
20S-32 Azqa	raazia	Ahsan
S_ROLLNUM	S_NAME	F_NAME
M_NAME		
20S-4 Sundus	Ahnuf	Aslam
20S-6 Sarah	shaheer	Bhola
20S-7 Alizah	mudassir	Ahsan
S_ROLLNUM	S_NAME	F_NAME
M_NAME		
20S-8 Sundus	saram	Aslam
20S-9 Farzana	mariyam	Ali
29 rows selected.		

```
--query 9
select distinct f.f_name, m.m_name from father f, mother
m , student s,registration r where f.f_id = s.f_id and
m.m_id = s.m_id and s.s_rollnumber = r.S_ROLLNUMBER and
((r.r_date-s.dob)/365 >=2 and (r.r_date-
s.dob)/365 <=5) ;
```

F_NAME	M_NAME
Aslam	Sundus
Ali	Farzana

```
--Query 10 shows all students who changed their class
select s.s_name, rh.s_rollnumber, rh.cl_id
from Registration_History rh, Student s
where rh.s_rollnumber = s.s_rollnumber
union
select s.s_name, r.s_rollnumber, r.class_id
from Registration r, Registration_History rh ,Student s
where r.s_rollnumber = rh.s_rollnumber
and r.class_Id != rh.cl_id
and r.s_rollnumber = s.s_rollnumber;
```

S_NAME	S_ROLLNUM	CL_ID
faraz	20S-3	300
faraz	20S-3	301
hadia	20S-15	500
hadia	20S-15	501
hadia	20S-15	502
momin	20S-5	200
momin	20S-5	201

7 rows selected.

```
--Query 13
select rh.s_rollnumber
from Registration_History rh
```

```

where (MONTHS_BETWEEN(sysdate,rh.R_Date)>6) minus select
  r.s_rollnumber from Registration r;
select rh.s_rollnumber
from Registration_History rh where (MONTHS_BETWEEN(sysda
te,rh.R_Date)>6)
minus
select r.s_rollnumber from Registration r;
select * from father ;

```

no rows selected

```

SQL> select * from father ;

```

F_ID	F_NAME	F_CNIC	F_NUM
F_1	Ali	3320342323	3012311914
Bahria			
Ali@yahoo.com			1002323 0
0			
F_2	Aslam	3223234323	3012375214
Defence			
Aslam@yahoo.com			4324234 0
9999			
F_3	Piyare Afzal	354534544	3.0177E+10
Defence phase 4			
Piyare@yahoo.com			432434 1
0			
F_4	Bhola	34343343	3012312214
Landhi			
Bhola@outlook.com			32422 1
1122			
F_5	Ahsan	35454522	3012312111
Jhang			
Ahsan@yahoo.com			321323 1
1092			
F_6	Ahmad	3211114323	3.0545E+10
Sargodha			
ahmad@yahoo.com			32342 1
0			

Forms/Reports:

At last we've created required forms and reports using PHP and Oracle.

We've created a report of a list of students grouped by classes along with add, search, delete, and edit student features and functionalities. In this form search can be performed using student name or id and it'll fetch list of those students.

We've created a report of a list of classes with number of students per class and student count per gender. search can be performed using class name.

CLASS_ID	MALE	FEMALE	MALE+FEMALE
100	3	2	5
101	3	2	5
102		2	2
200	1		1
201	1		1
300	3	1	4
301	3	1	4
400	2	3	5
401		3	3
500		1	1
502		1	1

11 rows selected.

We've created a report of a list of all students who have been dormant for given number of months/years. Search can be performed using months or years.

We've created a report of all info on a given student (parents, guardian, siblings, class History). Meanwhile search can be performed using student name or id.

We've also created a report of all info on a given parent (all children, classes of each child, designated guardian). While search can be performed using parent name or id