

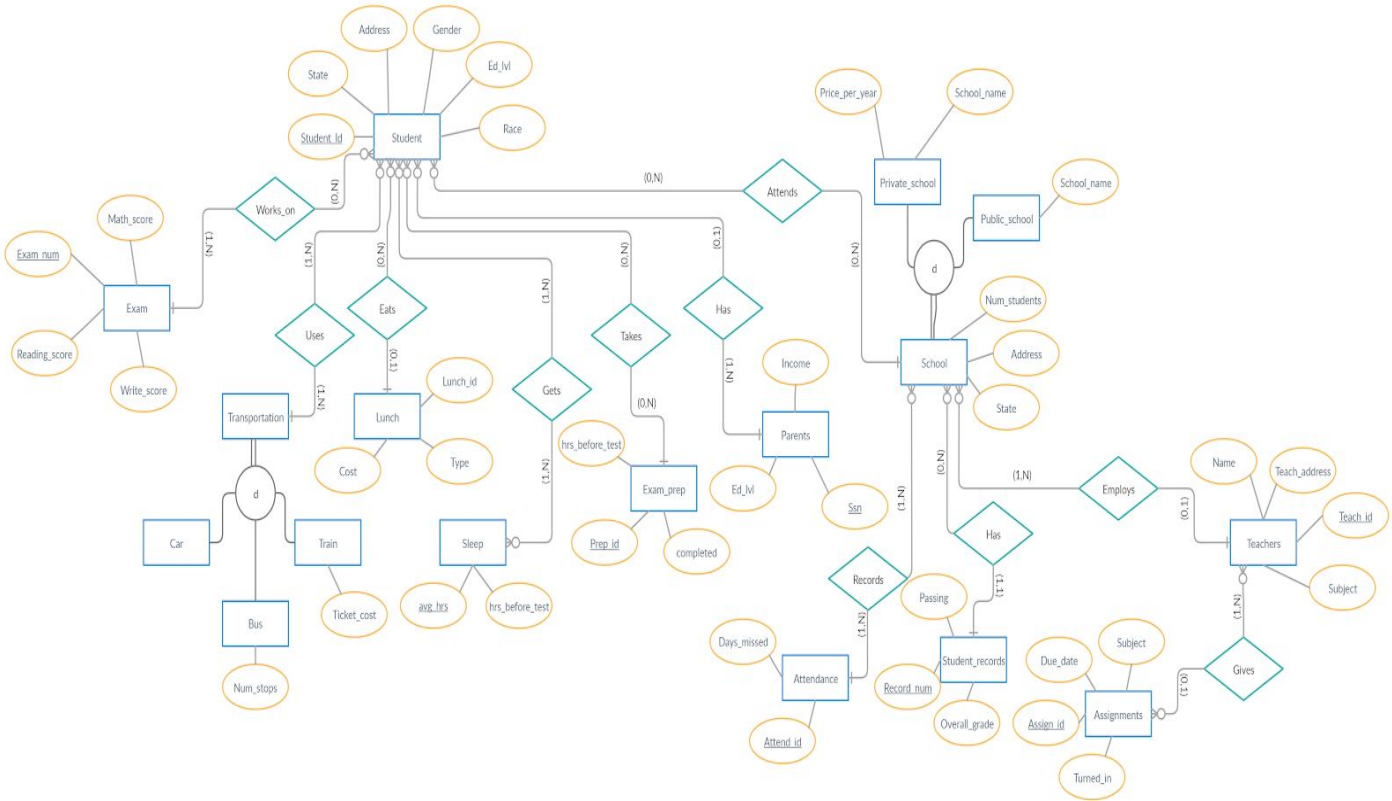
## **Introduction:**

Our database is an exam prep center for students preparing to take tests and all the aspects that come with it, which we expanded to a student's journey in academia . There are many aspects of a student's life that determines whether they will have success in academia. Our project intends to take those aspects and gives a predictive look at how they will do once they graduate or at the very least next semester. We can use this database to access certain student's scores, home life, school type, and student records and then based on those criteria, we can get a clear view of how they will do after graduation or at the very least next semester. Our main entity of the student branches off into many different entities that all come together to paint a picture of our certain student. Disclaimer: this is a totally biased view of students, not all students fit the standards set by this database.

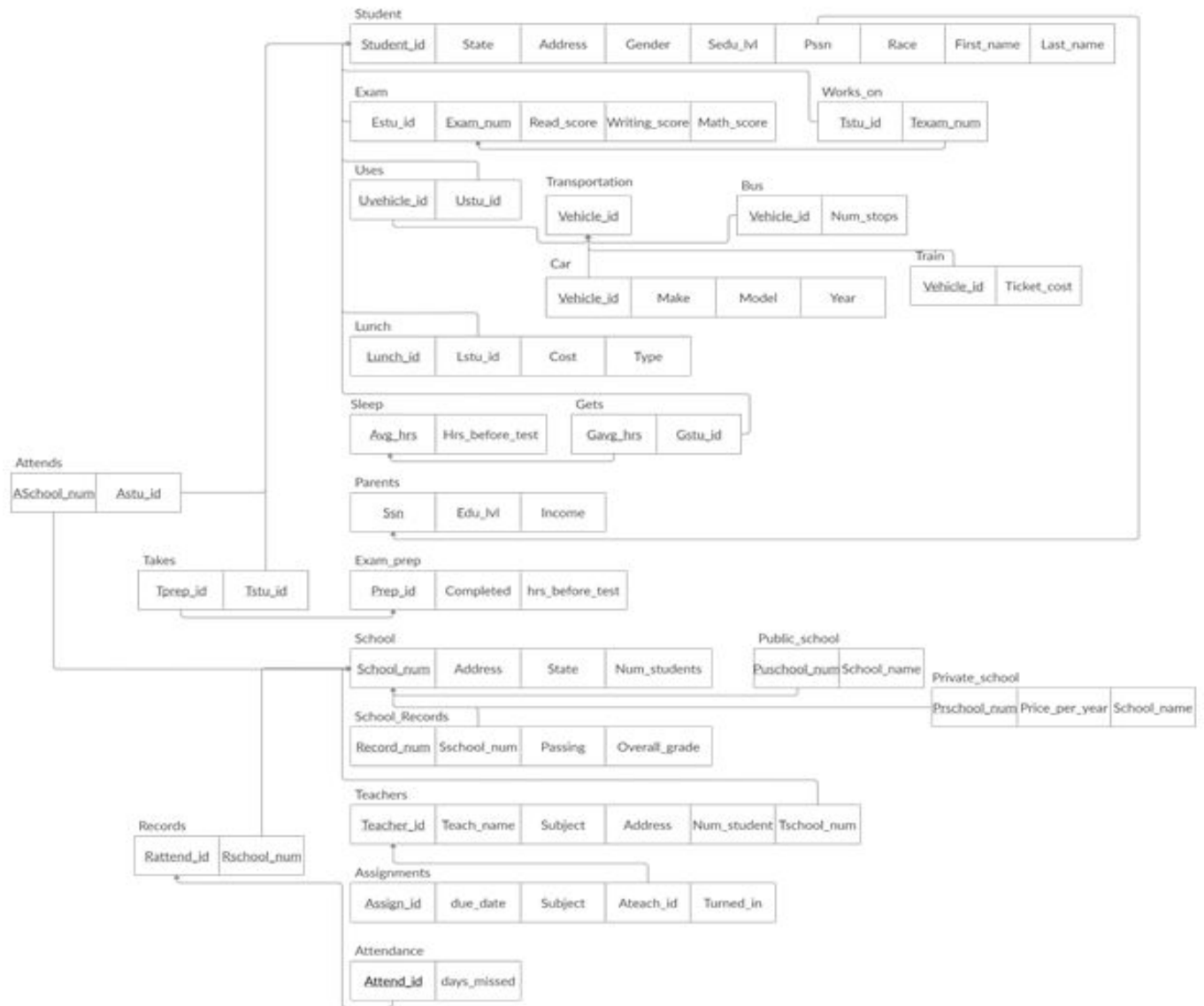
## **Requirement Analysis:**

To join the exam prep center the users should be students enrolled in either a public or private school, the students should have a good attendance record because attendance can affect students' grades, also students grades sometimes depend on their parents income because students who have parents with better income don't have to work therefore have more time to study than students who have to work, and finally students should get at least 6-7 hours of sleep because students have a better success rate compared to students who don't get enough sleep.

# EER Model:



# Relational Model:



## Data Dictionary:

Table	Attribute	Data Type	Primary Key	Foreign Key	Constraints
Uses	Uvehicle_id	INT	Yes	Transportation(vehicle_id)	Positive
Uses	Ustu_id	INT	Yes	Student(student_id)	Positive
Gets	Gavg_hrs	INT	Yes	Sleep(avg_hrs)	Positive
Gets	Gstu_id	INT	Yes	Student(student_id)	Positive
Takes	Tprep_id	INT	Yes	Exam_prep(prepare_id)	Positive
Takes	Tstu_id	INT	Yes	Student(student_id)	Positive
Attends	Aschool_id	INT	Yes	School(school_id)	Positive
Attends	Astu_id	INT	Yes	Student(student_id)	Positive
Records	Rattend_id	INT	Yes	Attendance(attend_id)	Positive
Records	Rschool_num	INT	Yes	School(school_num)	Positive
School	School_num	INT	Yes		Positive
School	Address	VARCHAR(90)			
School	State	VARCHAR(60)			

School	Num_Students	INT			Positive, same as student
Public_school	Puschool_num	INT	YES	School(school_num)	Positive
Public_school	School_name	VARCHAR(90)			Unique
Private_school	Prschool_num	INT	YES	School(school_num)	Positive
Private_school	School_name	VARCHAR(90)			Unique
Private_school	Price_per_year	INT			Positive
Transportation	Vehicle_id	INT	YES		Positive, 4 digits
Car	Vehicle_id	INT	YES	Transportation(vehicle_id)	Positive, 3-digit max
Car	Make	VARCHAR(60)			
Car	Model	VARCHAR(60)			
Car	Year	INT			Positive, 4 digits

Bus	Vehicle_id	INT	YES	Transportation(vehicle_id)	Positive, 3-digit max
Bus	Num_stops	INT			
Train	Vehicle_id	INT	YES	Transportation(vehicle_id)	Positive, 3-digit max
Train	Ticket_cost	INT			Positive, 3-digit max

Table	Attribute	Data Type	Primary key	Foreign key	Constraints
student	Student_id	INT	YES		unique
Student	F_name	VARCHAR(25)			
student	L_name	VARCHAR(25)			
student	State	VARCHAR(25)			
student	Address	VARCHAR(100)			
student	Gender	ENUM('M','F')			M(male) F(female)
student	Ed_level	INT			
student	P_ssn	INT		yes	9 digits,Pos
student	race	VARCHAR(25)			
exam	EStu_id	INT		yes	
exam	Exam_num	INT	yes		unique
exam	Read_score	INT			
exam	Write_score	INT			

exam	Math_score	INT			
lunch	lStu_id	INT		yes	
lunch	L_id	INT	yes		unique
lunch	cost	INT			<0
lunch	type	VARCHAR(25)			
sleep	avg_hrs	INT	yes		
sleep	hrs_before_test	INT			
parent	edu_level	VARCHAR(25)			
parent	ssn	INT	yes		Unique,9 digits pos
parent	income	INT			< 0
exam_prep	completed	ENUM('Y','N')			Y(yes),N(no)
exam_prep	prep_id	INT	yes		unique
exam_prep	hrs_b4_test	INT			
teacher	teacher_id	INT	yes		unique
teacher	name	VARCHAR(25)			
teacher	subject	VARCHAR(25)			
teacher	address	VARCHAR(25)			
teacher	num_students	INT			
teacher	Tschool_num	INT		yes	
school_records	rec_num	INT	yes		unique

school_reco rds	passing	ENUM('Y','N')			
school_reco rds	overall_grad e	INT			
school_reco rds	Rschoo_l_nu m	INT		yes	
assignment	ass_id	INT	yes		
assignment	due_date	DATE			<current date
assignment	subject	VARCHAR(25)			
assignment	turned_in	ENUM('Y','N')			Y(yes),N(no)
assignment	ateach_id	INT		yes	
Attendance	att_id	INT	yes		
Attendance	days_missed	INT			
records	attd_id	INT		yes	
school	school_num	INT		yes	

## Implementation:

To use MySQL we used the command *mysql -u localhost -u root*

We created our database using *create database projectdata*, then used it by doing the command *use projectdata*

Next we created all of the necessary tables for the database to function:



```
MariaDB [projectData]> create table uses(  
  ->   Ustu_id int not null,  
  ->   Uvehicle_id int not null,  
  ->   primary key(Ustu_id, Uvehicle_id),  
  ->   foreign key(Ustu_id) references student(Student_id),  
  ->   foreign key(Uvehicle_id) references transportation(Vehicle_id)  
  -> );  
Query OK, 0 rows affected (0.04 sec)
```

```
MariaDB [projectData]> create table transportation(  
  ->   Vehicle_id int not null,  
  ->   primary key(Vehicle_id)  
  -> );  
Query OK, 0 rows affected (0.04 sec)
```

```
MariaDB [projectData]> create table takes(  
  ->   Tstu_id int not null,  
  ->   Tprep_id int not null,  
  ->   primary key (Tstu_id, Tprep_id),  
  ->   foreign key(Tstu_id) references student(Student_id),  
  ->   foreign key(Tprep_id) references exam(Exam_num)  
  -> );  
Query OK, 0 rows affected (0.03 sec)
```

```
MariaDB [projectData]> create table train(  
  ->   Vehicle_id int not null,  
  ->   Ticket_cost int,  
  ->   primary key(Vehicle_id),  
  ->   foreign key(Vehicle_id) references transportation(Vehicle_id)  
  -> );  
Query OK, 0 rows affected (0.03 sec)
```

```
MariaDB [projectData]> create table teacher(  
  ->   teacher_id int not null,  
  ->   name varchar(25),  
  ->   subject varchar(25),  
  ->   address varchar(25),  
  ->   num_students int,  
  ->   Tschool_num int not null,  
  ->   primary key(teacher_id),  
  ->   foreign key(Tschool_num) references school(School_num)  
  -> );  
Query OK, 0 rows affected (0.04 sec)
```

```
MariaDB [projectData]> create table student(  
  -> Student_id int not null,  
  -> F_name varchar(25),  
  -> L_name varchar(25),  
  -> State varchar(25),  
  -> Address varchar(100),  
  -> Ed_level int,  
  -> race varchar(25),  
  -> P_ssn int not null,  
  -> gender enum ('M', 'F'),  
  -> primary key (Student_id)  
  -> );
```

Query OK, 0 rows affected (0.06 sec)

```
MariaDB [projectData]> create table sleep(  
  -> avg_hrs int not null,  
  -> hrs_before_test int,  
  -> primary key(avg_hrs)  
  -> );
```

Query OK, 0 rows affected (0.04 sec)

```
MariaDB [projectData]> create table school(  
  -> School_num int not null,  
  -> Address varchar(90),  
  -> State varchar(60),  
  -> Num_students int  
  -> );
```

Query OK, 0 rows affected (0.05 sec)

```
MariaDB [projectData]> create table school_records(  
  -> rec_num int not null,  
  -> passing enum('Y','N'),  
  -> overall_grade int,  
  -> Rschool_num int not null,  
  -> Rstu_id int not null,  
  -> primary key (rec_num),  
  -> foreign key(Rschool_num) references school(School_num),  
  -> foreign key(Rstu_id) references student(Student_id)  
  -> );
```

Query OK, 0 rows affected (0.05 sec)

```
MariaDB [projectData]> create table records(  
  -> Ratt_id int not null,  
  -> Rstu_id int not null,  
  -> primary key(Ratt_id, Rstu_id),  
  -> foreign key(Ratt_id) references attendance(att_id),  
  -> foreign key(Rstu_id) references student(Student_id)  
  -> );
```

Query OK, 0 rows affected (0.04 sec)

```
MariaDB [projectData]> create table public_school(  
-> PuSchool_num int not null,  
-> school_name varchar(90),  
-> primary key (PuSchool_num),  
-> foreign key(PuSchool_num) references school(School_num)  
-> );
```

Query OK, 0 rows affected (0.04 sec)

```
MariaDB [projectData]> create table private_school(  
-> PrSchool_num int not null,  
-> school_name varchar(90),  
-> price_per_year int,  
-> primary key (PrSchool_num),  
-> foreign key(PrSchool_num) references school(School_num)  
-> );
```

Query OK, 0 rows affected (0.05 sec)

```
MariaDB [projectData]> create table parent(  
-> edu_level varchar(25),  
-> ssn int not null,  
-> income int,  
-> primary key(ssn)  
-> );
```

Query OK, 0 rows affected (0.13 sec)

```
MariaDB [projectData]> create table exam(  
-> EStu_id int not null,  
-> Exam_num int not null,  
-> Read_score int,  
-> Write_score int,  
-> Math_score int,  
-> primary key(Exam_num),  
-> foreign key(EStu_id) references student(Student_id)  
-> );
```

Query OK, 0 rows affected (0.06 sec)

```
MariaDB [projectData]> create table gets(  
-> Gavg_hrs int not null,  
-> Gstu_id int not null,  
-> primary key(Gavg_hrs, Gstu_id),  
-> foreign key(Gavg_hrs) references sleep(avg_hrs),  
-> foreign key(Gstu_id) references student(Student_id)  
-> );
```

Query OK, 0 rows affected (0.04 sec)

```
MariaDB [projectData]> create table lunch(  
  ->   Lstu_id int not null,  
  ->   L_id int not null,  
  ->   cost int,  
  ->   primary key(L_id),  
  ->   foreign key(Lstu_id) references student(Student_id)  
  -> );  
Query OK, 0 rows affected (0.04 sec)
```

```
MariaDB [projectData]> create table exam_prep(  
  ->   prep_id int not null,  
  ->   completed enum('Y', 'N'),  
  ->   primary key(prep_id)  
  -> );  
Query OK, 0 rows affected (0.03 sec)
```

```
MariaDB [projectData]> create table car(  
  ->   Vehicle_id int not null,  
  ->   primary key(Vehicle_id),  
  ->   foreign key(Vehicle_id) references transportation(Vehicle_id)  
  -> );  
Query OK, 0 rows affected (0.04 sec)
```

```
MariaDB [projectData]> create table bus(  
  ->   Vehicle_id int not null,  
  ->   Num_stops int,  
  ->   primary key(Vehicle_id),  
  ->   foreign key(Vehicle_id) references transportation(Vehicle_id)  
  -> );  
Query OK, 0 rows affected (0.04 sec)
```

```
MariaDB [projectData]> create table attends(  
  ->   Aschool_id int not null,  
  ->   Astu_id int not null,  
  ->   primary key(Aschool_id, Astu_id),  
  ->   foreign key(Astu_id) references student(Student_id),  
  ->   foreign key(Aschool_id) references school(School_num)  
  -> );  
Query OK, 0 rows affected (0.04 sec)
```

```
MariaDB [projectData]> create table attendance(  
  ->   days_missed int,  
  ->   att_id int not null,  
  ->   primary key (att_id)  
  -> );  
Query OK, 0 rows affected (0.04 sec)
```



```

MariaDB [projectData]> create table assignment(
  ->   ass_id int not null,
  ->   due_date date,
  ->   subject varchar(25),
  ->   turned_in enum('Y','N'),
  ->   Ateach_id int not null,
  ->   primary key(ass_id),
  ->   foreign key(Ateach_id) references teacher(teacher_id)
  -> );
Query OK, 0 rows affected (0.04 sec)

```

```

MariaDB [projectData]> create table works_on(
  ->   Wstu_id int not null,
  ->   Wexam_num int not null,
  ->   primary key (Wstu_id, Wexam_num),
  ->   foreign key(Wstu_id) references student(Student_id),
  ->   foreign key(Wexam_num) references exam(Exam_num)
  -> );
Query OK, 0 rows affected (0.03 sec)

```

All of these tables with the proper primary and foreign keys to make sure that the relationships were correct.

Next we had to insert all of the data for the tables:

```

1 | INSERT INTO `uses` (`Ustu_id`, `Uvehicle_id`) VALUES ('110090664', '1217'),
  ('119809337', '1923'), ('119035789', '4223'), ('110026533', '5103'),
  ('116784321', '5555'), ('116766654', '5983'), ('110741967', '6776'),
  ('113457891', '7709'), ('115629012', '9011'), ('117812903', '9899');

```

```

1 | INSERT INTO `sleep` (`avg_hrs`, `hrs_before_test`) VALUES ('8', '8'), ('4',
  '5'), ('5', '4'), ('6', '4'), ('7', '7'), ('9', '7'), ('10', '8'), ('3',
  '2'), ('11', '10'), ('12', '6');

```

```

1 | INSERT INTO `takes` (`Tstu_id`, `Tprep_id`) VALUES ('110090664', '3'),
  ('119809337', '1'), ('119035789', '8'), ('110026533', '7'), ('116784321',
  '5'), ('116766654', '6'), ('110741967', '4'), ('113457891', '2'),
  ('115629012', '9'), ('117812903', '10');

```

```

1 INSERT INTO `student` (`Student_id`, `F_name`, `L_name`, `State`, `Address`,
`Ed_level`, `race`, `P_ssn`, `gender`) VALUES ('110741967', 'Michael',
'Anthony', 'Texas', '8901 Oakwood Drive', '2', 'black', '126489112', 'M'),
('117812903', 'Sarah', 'Flax', 'Alabama', '6767 Ceder Way', '3', 'white',
'851029909', 'F'), ('110090664', 'Alex', 'Nugyen', 'Pennsylvania', '3301
Fairmont Drive', '1', 'asian', '695836188', 'M'), ('113457891', 'Richard',
'Lewis', 'Texas', '9001 Appleseed Court', '4', 'white', '721067291', 'M'),
('116784321', 'Kendra', 'Jones', 'South Carolina', '4144 Seeder Drive', '1',
'black', '901254386', 'F'), ('119809337', 'Amanda', 'Keys', 'Vermont', '1142
College Way', '3', 'white', '901222326', 'F'), ('110026533', 'Colin',
'Dotson', 'Texas', '1209 Springlake Drive', '2', 'white', '551289032', 'M'),
('115629012', 'Samantha', 'Roads', 'New York', '5644 Riverside Road', '4',
'black', '126773901', 'F'), ('116766654', 'Kevin', 'Lang', 'Oklahoma', '9012
Peachview Court', '3', 'asian', '851109376', 'M');

```

```

1 INSERT INTO `train` (`Vehicle_id`, `Ticket_cost`) VALUES ('1923', '4'),
('1217', '3');

```

```

1 INSERT INTO `teacher` (`teacher_id`, `name`, `subject`, `address`,
`num_students`, `Tschool_num`) VALUES ('312', 'Malik Jackson', 'Math', '5505
Ridgeway Ct', '22', '91'), ('444', 'Chris Wright', 'Reading', '9099 Ashford
Road', '34', '29'), ('101', 'Alice Meeps', 'Writing', '1290 Staple Way',
'17', '60'), ('178', 'Fredrick Graham', 'Math', '8967 Colison Drive', '28',
'58'), ('267', 'Thresa Booker', 'Reading', '5599 Slue Court', '25', '23'),
('545', 'Jay Jackson', 'Reading', '4454 Reading Road', '30', '1'), ('401',
'Chris Carter', 'Math', '6553 Foxhole Road', '45', '78'), ('499', 'Allen
Smith', 'Writing', '4300 Berrybush Ridge', '19', '4'), ('678', 'Devonte
Gerry', 'Writing', '3000 Cattenbarry Court', '25', '40'), ('809', 'Mary
Lue', 'Reading', '9041 Steelhead Road', '32', '12');

```

```

1 INSERT INTO `works_on` (`Wstu_id`, `Wexam_num`) VALUES ('110090664', '19'),
('119809337', '12'), ('119035789', '5'), ('110026533', '11'), ('116784321',
'22'), ('116766654', '90'), ('110741967', '35'), ('113457891', '32'),
('115629012', '75'), ('117812903', '99');

```

```

1 INSERT INTO `school_records` (`rec_num`, `passing`, `overall_grade`,
`Rschool_num`, `Rstu_id`) VALUES ('04', 'N', '65', '1', '116784321'), ('12',
'Y', '78', '91', '119035789'), ('15', 'Y', '80', '23', '110026533'), ('17',
'Y', '83', '40', '119809337'), ('20', 'Y', '84', '12', '110090664'), ('22',
'Y', '80', '29', '113457891'), ('35', 'Y', '93', '58', '110741967'), ('38',
'Y', '80', '60', '115629012'), ('39', 'Y', '87', '78', '116766654'), ('74',
'Y', '75', '4', '117812903');

```

```

1 INSERT INTO `school` (`School_num`, `Address`, `State`, `Num_students`)
VALUES ('01', '7717 Crater Road', 'South Carolina', '400'), ('04', '8914
Cheifs Drive', 'Alabama', '280'), ('12', '9099 Peachtree Way',
'Pennsylvania', '675'), ('23', '6766 Doumount Road', 'Texas', '1340'), ('29',
'1211 Waywerd Drive', 'Texas', '860'), ('40', '9065 Forest Court', 'Vermont',
'190'), ('58', '5358 Maple Drive', 'Texas', '520'), ('60', '4421 North
Avenue', 'New York', '600'), ('78', '7877 Heatway Road', 'Oklahoma', '355'),
('91', '1090 Springapple Way', 'Georgia', '480');

```

```

1 INSERT INTO `records` (`Ratt_id`, `Rstu_id`) VALUES ('3', '110090664'), ('5',
'119809337'), ('7', '119035789'), ('9', '110026533'), ('10', '116784321'),
('2', '116766654'), ('1', '110741967'), ('4', '113457891'), ('6',
'115629012'), ('8', '117812903');

```



```
1 INSERT INTO `public_school` (`PuSchool_num`, `school_name`) VALUES ('91', 'Rockside Highschool'), ('29', 'Tohicken Highschool'), ('60', 'Northridge Highschool'), ('58', 'Quaker Highschool'), ('23', 'Dogmount Highschool'), ('1', 'Feather Highschool'), ('78', 'Kensington Highschool');
```

```
1 INSERT INTO `private_school` (`PrSchool_num`, `school_name`, `price_per_year`) VALUES ('4', 'Highsmith Academy', '40000'), ('40', 'Rights Academy', '18000'), ('12', 'Tuppers Academy', '12000');
```

```
1 INSERT INTO `lunch` (`Lstu_id`, `L_id`, `cost`) VALUES ('110090664', '02', '3'), ('119809337', '06', '5'), ('119035789', '09', '5'), ('110026533', '15', '8'), ('116784321', '22', '0'), ('116766654', '23', '14'), ('110741967', '29', '5'), ('113457891', '41', '0'), ('115629012', '44', '7'), ('117812903', '50', '10');
```

```
1 INSERT INTO `gets` (`Gavg_hrs`, `Gstu_id`) VALUES ('6', '110090664'), ('4', '119809337'), ('7', '119035789'), ('5', '110026533'), ('3', '116784321'), ('11', '116766654'), ('8', '110741967'), ('9', '113457891'), ('12', '115629012'), ('11', '117812903');
```

```
1 INSERT INTO `exam_prep` (`prep_id`, `completed`) VALUES ('001', 'Y'), ('002', 'Y'), ('003', 'N'), ('004', 'Y'), ('005', 'N'), ('006', 'Y'), ('007', 'Y'), ('008', 'Y'), ('009', 'N'), ('010', 'Y');
```

```
1 INSERT INTO `exam` (`EStu_id`, `Exam_num`, `Read_score`, `Write_score`, `Math_score`) VALUES ('110090664', '19', '87', '92', '74'), ('119809337', '12', '82', '81', '86'), ('119035789', '05', '81', '75', '79'), ('110026533', '11', '78', '67', '94'), ('116784321', '22', '66', '74', '54'), ('116766654', '90', '87', '83', '90'), ('110741967', '35', '92', '91', '95'), ('113457891', '32', '88', '72', '79'), ('115629012', '75', '80', '76', '81'), ('117812903', '99', '67', '76', '81');
```

```
1 INSERT INTO `bus` (`Vehicle_id`, `Num_stops`) VALUES ('5555', '10'), ('5103', '8'), ('4223', '4');
```

```
1 INSERT INTO `attends` (`Aschool_id`, `Astu_id`) VALUES ('1', '116784321'), ('91', '119035789'), ('29', '113457891'), ('60', '115629012'), ('58', '110741967'), ('23', '110026533'), ('78', '116766654'), ('4', '117812903'), ('40', '119809337'), ('12', '110090664');
```

```
1 INSERT INTO `attendance` (`days_missed`, `att_id`) VALUES ('0', '01'), ('1', '02'), ('1', '03'), ('3', '04'), ('3', '05'), ('4', '06'), ('5', '07'), ('8', '08'), ('14', '09'), ('29', '10');
```

```
1 |INSERT INTO `assignment` (`ass_id`, `due_date`, `subject`, `turned_in`,  
  `Ateach_id`) VALUES ('101', '2019-12-05', 'Writing', 'N', '101'), ('190',  
  '2019-12-17', 'Writing', 'N', '499'), ('199', '2019-12-19', 'Math', 'N',  
  '401'), ('200', '2019-12-09', 'Reading', 'N', '444'), ('410', '2019-12-01',  
  'Writing', 'N', '678'), ('560', '2019-12-20', 'Math', 'N', '178'), ('791',  
  '2019-12-04', 'Reading', 'N', '545'), ('889', '2019-12-02', 'Math', 'N',  
  '312'), ('896', '2019-12-01', 'Reading', 'N', '809'), ('950', '2019-12-02',  
  'Reading', 'N', '267');
```

```
MariaDB [projectdata]> INSERT INTO `transportation`(`Vehicle_id`) VALUES (5103);  
Query OK, 1 row affected (0.01 sec)
```

```
MariaDB [projectdata]> INSERT INTO `transportation`(`Vehicle_id`) VALUES (5983);  
Query OK, 1 row affected (0.00 sec)
```

```
MariaDB [projectdata]> INSERT INTO `transportation`(`Vehicle_id`) VALUES (7709);  
Query OK, 1 row affected (0.00 sec)
```

```
MariaDB [projectdata]> INSERT INTO `transportation`(`Vehicle_id`) VALUES (9011);  
Query OK, 1 row affected (0.00 sec)
```

```
MariaDB [projectdata]> INSERT INTO `transportation`(`Vehicle_id`) VALUES (4223);  
Query OK, 1 row affected (0.00 sec)
```

```
MariaDB [projectdata]> INSERT INTO `transportation`(`Vehicle_id`) VALUES (1217);  
Query OK, 1 row affected (0.00 sec)
```

```
MariaDB [projectdata]> INSERT INTO `transportation`(`Vehicle_id`) VALUES (6776);  
Query OK, 1 row affected (0.00 sec)
```

```
MariaDB [projectdata]> INSERT INTO `transportation`(`Vehicle_id`) VALUES (5555);  
Query OK, 1 row affected (0.01 sec)
```

After inserting the data the database was complete and could now be queried for results.

**Here we will implement some of the functional requirements:**

Students overall grade compared to the days that they missed in total



```

MariaDB [projectdata]> select
->   F_name,
->   L_name,
->   days_missed,
->   overall_grade
-> from
->   student,
->   school_records as sr,
->   attendance,
->   records as r
-> where
->   Student_id = r.Rstu_id
->   and sr.Rstu_id = Student_id
->   and Ratt_id = att_id;

```

F_name	L_name	days_missed	overall_grade
Kendra	Jones	29	65
Ashley	Mack	5	78
Colin	Dotson	14	80
Amanda	Keys	3	83
Alex	Nugyen	1	84
Richard	Lewis	3	80
Michael	Anthony	0	93
Samantha	Roads	4	80
Kevin	Lang	1	87
Sarah	Flax	8	75

10 rows in set (0.01 sec)

Student overall grade with parent income less than \$50,000

```

MariaDB [projectdata]> select F_name, L_name, income, overall_grade from student, parent, school_records where income
< 50000 and ssn = P_ssn and Student_id = Rstu_id;

```

F_name	L_name	income	overall_grade
Kendra	Jones	37000	65
Samantha	Roads	42000	80
Kevin	Lang	49500	87

3 rows in set (0.00 sec)

Student scores compared to the hours of sleep on average and before test

```
SELECT `student`.`F_name`, `gets`.`Gstu_id`, `sleep`.*, `exam`.`Read_score`, `exam`.`Write_score`, `exam`.`Math_score`
FROM `student`
LEFT JOIN `gets` ON `gets`.`Gstu_id` = `student`.`Student_id`
LEFT JOIN `sleep` ON `gets`.`Gavg_hrs` = `sleep`.`avg_hrs`
LEFT JOIN `exam` ON `exam`.`EStu_id` = `student`.`Student_id`;
```

☐ Profiling [\[Edit inline\]](#) [\[Edit\]](#) [\[Explain SQL\]](#) [\[Create PHP code\]](#) [\[Refresh\]](#)

☐ Show all | Number of rows:  | Filter rows:  | Sort by key:

F_name	Gstu_id	avg_hrs	hrs_before_test	Read_score	Write_score	Math_score
Colin	110026533	5	4	78	67	94
Alex	110090664	6	4	87	92	74
Michael	110741967	8	8	92	91	95
Richard	113457891	9	7	88	72	79
Samantha	115629012	12	6	80	76	81
Kevin	116766654	11	10	87	83	90
Kendra	116784321	3	2	66	74	54
Sarah	117812903	11	10	67	76	81
Ashley	119035789	7	7	81	75	79
Amanda	119809337	4	5	82	81	86

## Teamwork:

Fatoumata Barry - Database design, Introduction, Requirement Analysis, Data Dictionary, Report

Austin - Database design, EER Model, Implementation, Report

Jacques - Database design, EER Model, Relational Model, Data Dictionary, Report

## Summary:

To conclude, our project took data from a school system that focused on the performance of the students compared to conditions around them that could affect their performance. First we got our dataset and found the functional requirements that our database needed to have. We then mapped entities, their attributes, and relationships on an EER diagram to help design the structure of our database. Next we created a relational model and normalized the tables to show the relationships and help design the overall database including primary and foreign keys that are needed for the relationships. Then we created the database using MySQL, we created all of the necessary tables, assigned the keys to the correct attributes, and then inserted all of the data into the tables. Finally we were able to query our database and see the relationship

between a student's performance and how that performance is affected with different attributes in their life. This overall project has been very beneficial to all of us and has allowed us to further our knowledge with database design and management.