**Academic Honesty**

I fully support Baruch College’s policy on Academic Honesty, which states, in part:

"Academic dishonesty is unacceptable and will not be tolerated. Cheating, forgery, plagiarism, and collusion in dishonest acts undermine the college's educational mission and the students' personal and intellectual growth. Baruch students are expected to bear individual responsibility for their work, to learn the rules and definitions that underlie the practice of academic integrity, and to uphold its ideals. Ignorance of the rules is not an acceptable excuse for disobeying them. Any student who attempts to compromise or devalue the academic process will be sanctioned."

Academic sanctions in this class will range from an F on the assignment to an F in this course.  A report of suspected academic dishonesty will be sent to the Office of the Dean of Students. Additional information and definitions can be found at <https://provost.baruch.cuny.edu/academic-affairs/academic_honesty/>

To recognize your agreement with the Academic Honesty Policy, please **type** the following statement, type your CUNYID and Full Name, and date.

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Statement: The work in this assignment is my own, any outside sources have been properly cited

CUNYID: 23484732 First Name: William Last Name: Zhu Date: 6/22/2021

## Instruction

* This assignment has 15 points in total which is 15% of the final grade.
* Please try your best to answer ALL questions.
* You must use Relational Schemas to represent the Relational Model. No credit will be granted for other notations.
  + Relational Schema: NAME(Attribute1, Attribute2, …, AttributeX(fk), … , AttributeN)
  + You should underline the primary key(s) and add (fk) for foreign key(s).
* Print your completed work to a PDF file with name as: FirstnameLastnameA02.pdf
* Submit your work on time. No late submission will be accepted.

(3 points) Question 1: Understand Relations.

We have the following relation represented as a table. Read it carefully and answer following questions:

Table

Description automatically generated

What is the name of this relation: MotorVehicleCollision

What is the degree of this relation: 11

What is the cardinality of this relation: 9

What is the key of this relation: Collision\_ID

What is the domain of ZIP CODE: 5 characters

What is the domain of CRASH DATE: DATE

(4 points) Question 2: Translate the ERAD to a Relational Model. Make sure you represent the Relational Model by a set of Relational Schemas, and explicitly represent the primary key(s) and foreign key(s).

Diagram

Description automatically generated

Name: Taxi HR database

Relational schema:

Drivers (EmpID, FullName,BioSex, Birthdate, MailingAddress, BankAccount, Contacts, SupervisorEmpID(fk), PaymentID(fk))

Dependents (DependentID, FullName, Biosex, BirthDate, Age)

Drivers\_dependents(EmpID(fk), DependentID (fk))

Cars (EngineNum, Manufacturer, model, Year, Mileage, EmpID(fk))

Supervisors( EmpID, FullName, BioSex, BirthDate, MailingAddress, BankAccount, Contacts)

Payments (PaymentID, Date, Amount)

(8 points) Question 3: Translate the ERAD to a Relational Model. Make sure you represent the Relational Model by a set of Relational Schemas, and explicitly represent the primary key(s) and foreign key(s).

Diagram

Description automatically generated

Name: HR Database

Relational Schema:

Employees( EmpID, FullName, BioSex, BirthDate, MailingAddress, BankAccount, Contacts, OfficeID(fk),SupervisorEmpID(fk)

Training (CourseID, Credits, Time, Location, Certificate)

Employees\_Training( EmpID(fk), CourseID(fk))

Office( OfficeID, Phone, Fax, Share/Private, BranchID(fk))

Branch( BranchID, Address, Manager, Lease)

Projects(ProjectID, Manager, Budget, Stage, StartDate)

Employees\_Projects( EmpID (fk), ProjectID(fk))

Emp\_Emp( EmpID(fk), CoworkerEmpID(fk))