Name: _Paola Garibay_____ **Seat# _F1** **COSC 3380**

HW 1 (to be turned in for grading):

(100 points)

(Due date found in the COSC 3380 Detailed Syllabus!)

Electronic: ***a Word document to be attached to BB and turned in a as a Hardcopy*****;**

Hardcopy: a ***handwritten PAPER AND PENCIL!*****,**

WARNING: YOU WILL LOOSE 10 points IF YOU DO NOT MARK YOUR SEAT NUMBER ON THE HARCOPY!

I UNDERSTAND THAT TURNING ANOTHER's WORK IN is CHEATING.
I UNDERSTAND THAT ANY KIND OF DISSEMINATION of this WORK is CHEATING.

1. Electronic Version not attached to BB - 10 points
2. No screenshot of the BB attachment - 5 points
3. Hardcopy not submitted - 10 points
4. Not answered by hand - 10 points

I CERTIFY THAT THE HOMEWORKs SOLUTIONs ARE MY OWN WORK!

SIGNATURE:

BASED on LECTURE 2 DATA MODELING - WHAT - ERD MODEL

1. (10 points) Data Requirements Analysis for ERD (E + H)
(You need to do the Textual Analysis on the Requirements below)

(1 E1: Customer "Own" M E2: Car)

onstruct an ERD Model for a car insurance company whose customers own

E1: Customer R1: Own

E1: Customer – A1: customer_ID E1: Customer – A3: address

one or more cars each. Customer's customer_id, name, and address need

E1: Customer – A2: name

E2: Car (1 E2: Car "Associate" M E3: Accident)

to be stored in the database. Each car has associated with it zero to

R2: Associate

E2: Car – A1: licence_no

any number of recorded accidents. Both car's licence_no and model data

E2: Car – A2: model

E3: Accident E3: Accident – A2: date

need to be stored in the database. Accident's report_id, date, and

E3: Accident – A1: report_id

E4: Insurance Policy

E3: Accident – A3: place

place need to be stored in the database. Each insurance policy (has a

E4: Insurance Policy – A1: policy_id (1 E4: Insurance Policy "Has" M E5: Payment)

R4: Has

policy_id) covers one or more cars, and has one or more premium

R3: Covers

(1 E4: Insurance Policy "Covers" M E2: Car)

E5: Payment E5: Payment – A1: payment_no

payments (amount) associated with it. Each payment (has a payment_no)

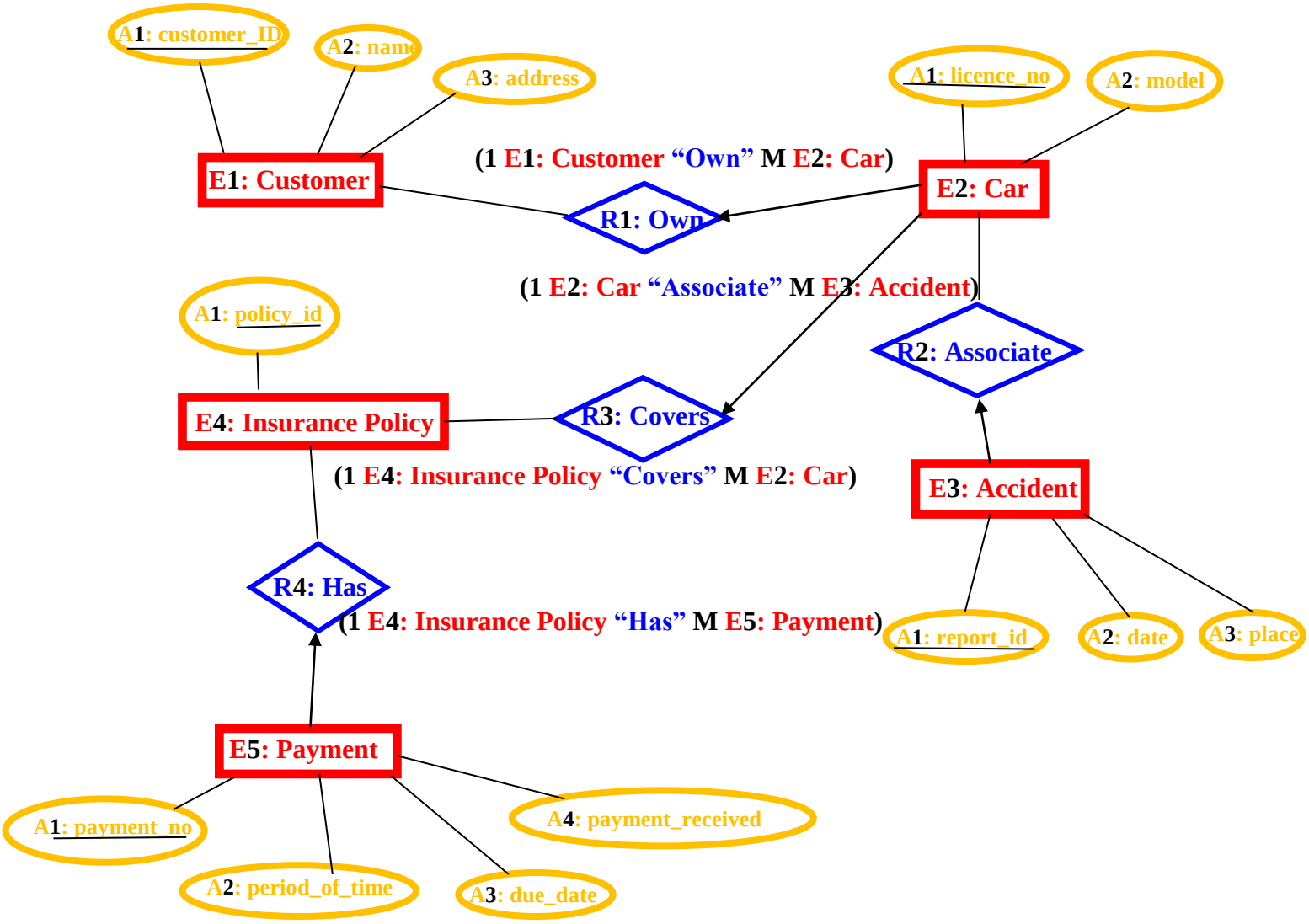
E5: Payment – A2: period_of_time E5: Payment – A3: due_date

and is for a particular period of time, and has an associated due date,

E5: Payment – A4: payment_received

and the date when the payment was received.

ANSWER:


A1: customer_ID
A2: name
A3: address
E1: Customer
(1 E1: Customer "Own" M E2: Car)
R1: Own
A1: licence_no
A2: model
E2: Car
(1 E2: Car "Associate" M E3: Accident)
R2: Associate
A1: policy_id
E4: Insurance Policy
R3: Covers
(1 E4: Insurance Policy "Covers" M E2: Car)
E3: Accident
R4: Has
(1 E4: Insurance Policy "Has" M E5: Payment)
A1: report_id
A2: date
A3: place
E5: Payment
A1: payment_no
A4: payment_received
A2: period_of_time
A3: due_date

2. (10 points) Data Requirements Analysis for ERD (E + H)

(You need to do the Textual Analysis on the Requirements below)

E1: Student

R1: Get_In – A1: mark

Consider a database used to record the marks that students get in

R1: Get_In

(M E1: Student "Get_In" 1 E2: Section)

R2: Of

different exams of different course offerings (sections). Student's

(1 E4: Course "Of" M E2: Section)

E1: Student – A1: student_id

E1: Student – A3: dept_name

student_id, name, dept_name, and tot_cred need to be stored in the

E1: Student – A2: name

E1: Student – A4: tot_cred

E2: Section

E2: Section – A2: semester

database. Section's sec_id, semester, and year need to be stored in the

E2: Section – A1: sec_id

E2: Section – A3: year

E3: Course

E3: Course – A2: title

database. Course's course_id, title, and credits need to be stored in

E3: Course – A1: course_id

E3: Course – A3: credits

E4: Exam

E4: Exam – A2: name

E4: Exam – A4: title

the database. Exam's exam_id, name, place, and time need to be stored

E4: Exam – A1: exam_id

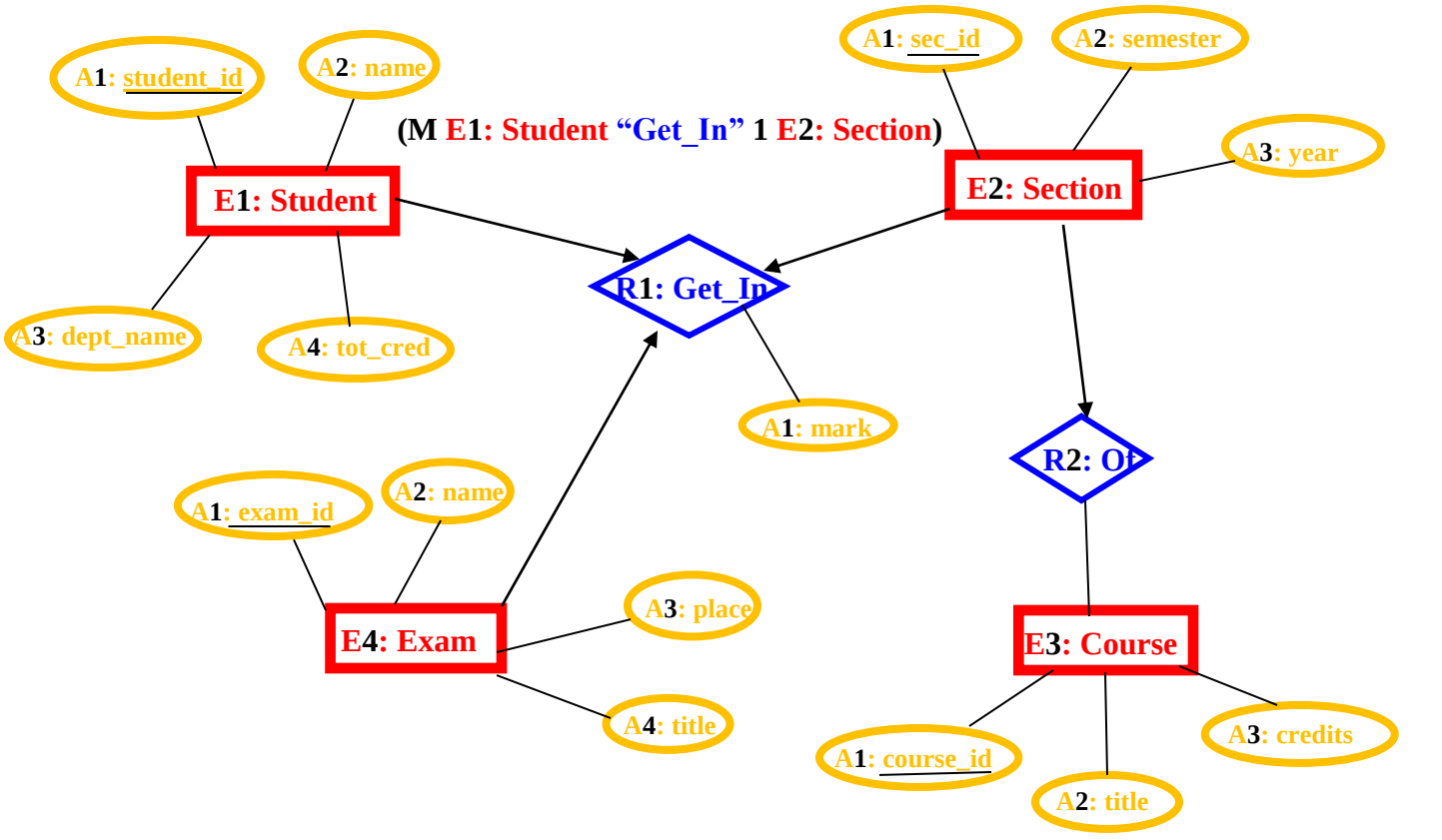
E4: Exam – A3: place

in the database.

a. **(E + H)**

Construct an E- R diagram that models exams as entities, and uses a ternary relationship between student, section, and exam, for the database.

ANSWER:



b. **(E + H)**

Construct an alternative E- R diagram that uses only a binary relationship between student and section. Make sure that only one relationship exists between a particular student and section pair, yet you can represent the marks that a student gets in different exams.

ANSWER: