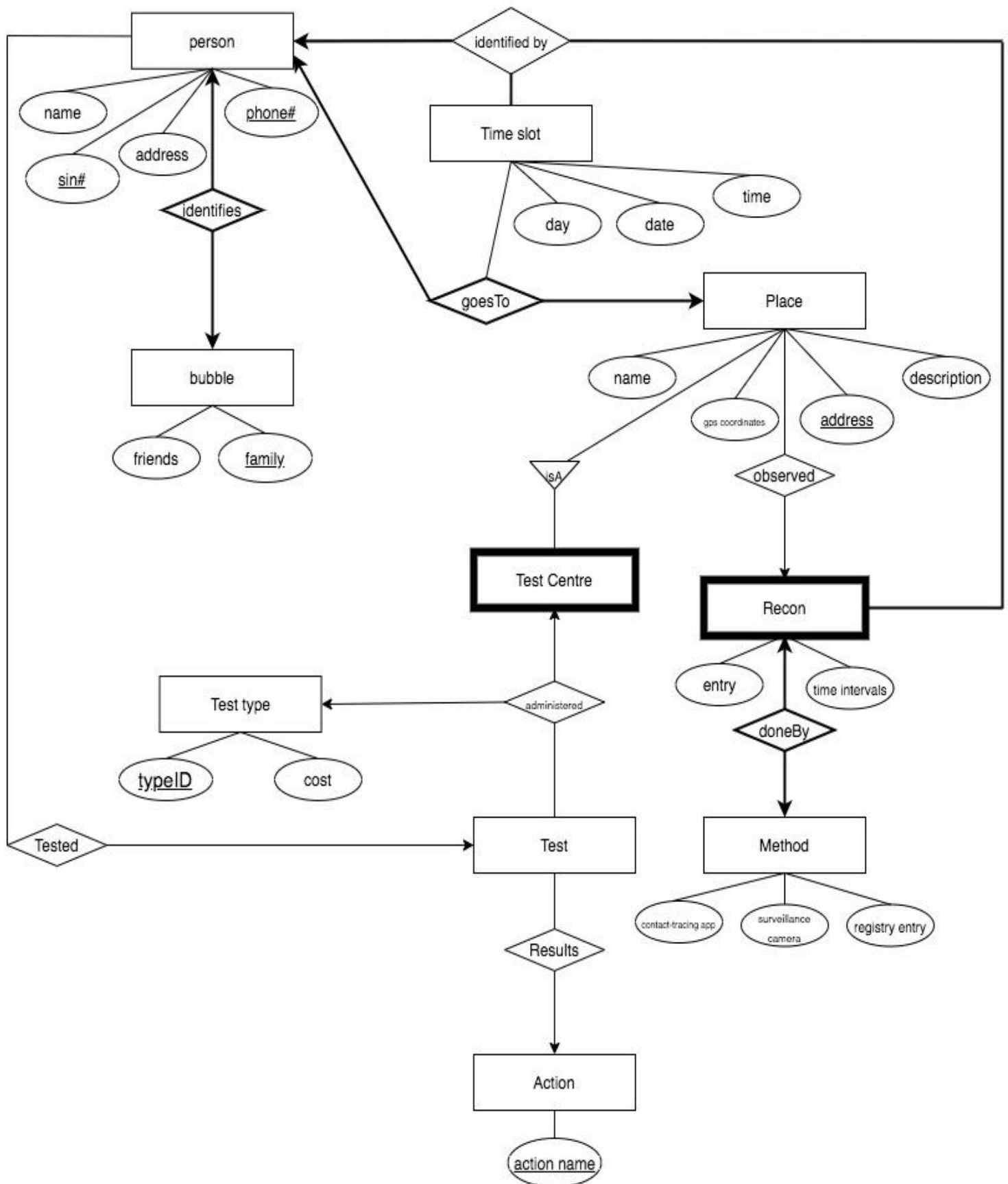**EECS 3421 Fall 2020**
Sur (Family name): Latif
Given Name: Farhan Reza
Student #: 214145592
Section: A

person

- name
- address
- sin#
- phone#

identifies

bubble
- friends
- family

identified by

Time slot
- day
- date
- time

goesTo

Place
- name
- gps coordinates
- address
- description

IsA

observed

Test Centre

Recon
- entry
- time intervals

doneBy

Test type
- typeID
- cost

administered

Tested

Test

Results

Method
- contact-tracing app
- surveillance camera
- registry entry

Action
- action name

The Contact Tracing Domain

In this design the logic is that a person is going to a place, at a certain time slot and is reckoned by surveillance methods, contact-tracing, surveillance cam, and registry entry. Additionally, this database needs to find out a person's test result. The test centre is a place and the test is administered in the test centre. The test result results in action, ie, if positive then quarantine, else no quarantine.

Assumptions:
- Recon is done on many people by one method.
- Test centre and test type is a binary relation as both entities depend on each other.
- Test centre is a weak entity as it inherits its properties and identity from places and test type.
- Recon is a weak entity as it depends on a person *going to* a place.

Relations:
Person -> tested -> test : Many-to-one [one person done more than one test]
Person -> identifies -> bubble : one -to one [one person identified by his one bubble]
Person -> goes to -> places : one-to-many [one person may go[es to] many places]
Recon -> identifies -> person and time-slot : ternary relation.

Recon -> done by -> method : one-to-one

Place -> observes -> recon : many-to-one [many places observed one recon method]

Place -> isA -> test centre : subclass

Test Type -> Test centre -> Test have a ternary relation

Test -> result -> action : binary relation [the action depends on test results]