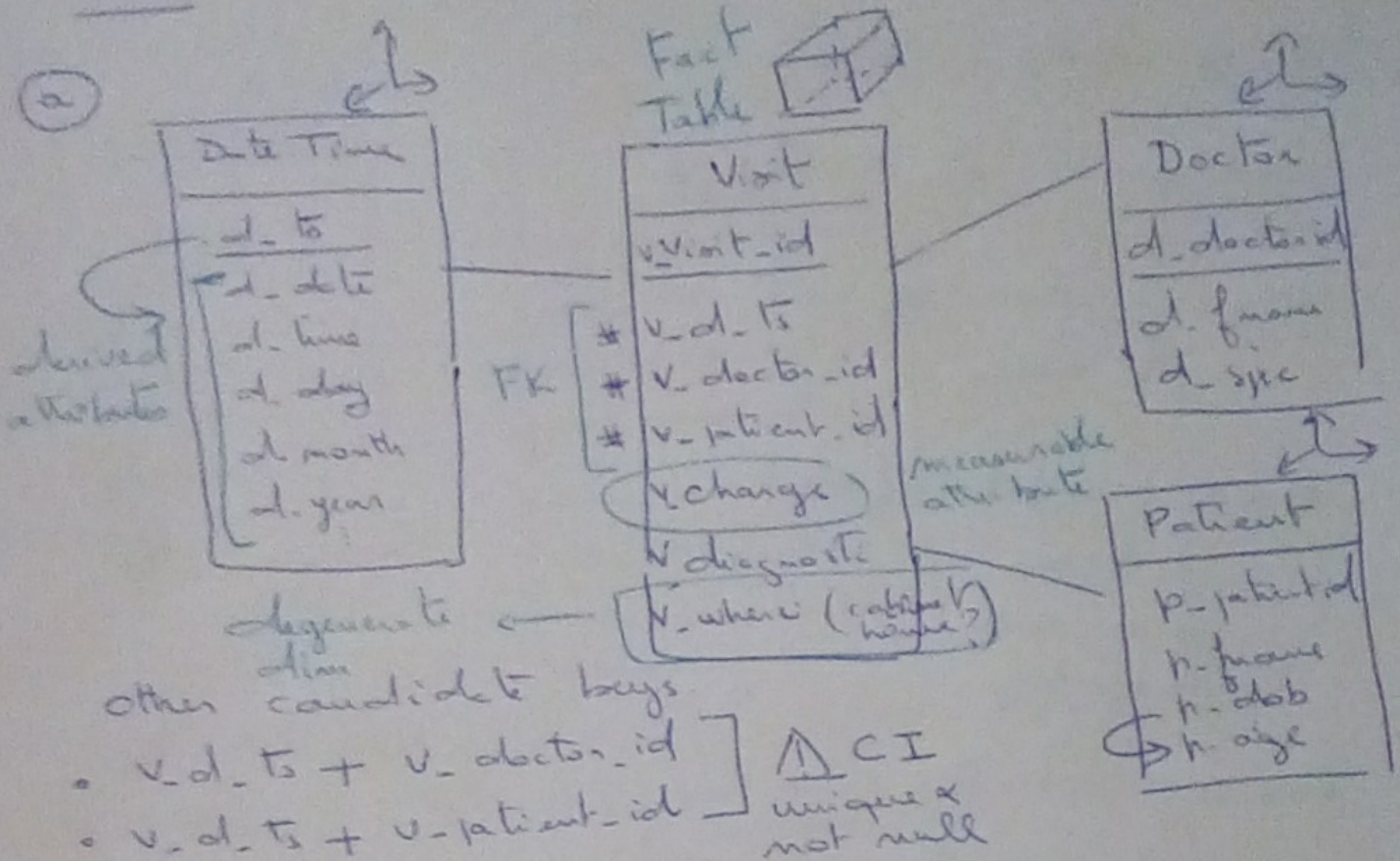
Dr. Rim Nouira - DW design - p#1

Ex1

(a)



other candidate keys

- v_d_ts + v_doctor_id
- v_d_ts + v_patient_id

⚠ CI unique & not null

(b) [day ; doctor ; patient]

↓ rollup from day to year

↓ slice for year = 2004

↓ rollup to "all"

↓ slice for all patients

q = total fee collected by each doctor in 2004

(c) given fee(day, month, year, doctor, hospital, patient, count, charge)

```
SELECT doctor, SUM(charge)
FROM fee
WHERE year = 2004
GROUP BY doctor;
```

OLAP cube

Fact table : visit

Measure : Σ v. charge

Dim 1 : place of visit
- + V. where

Dim 2 : date of visit
- + d_year
- + d_month
- + d_day

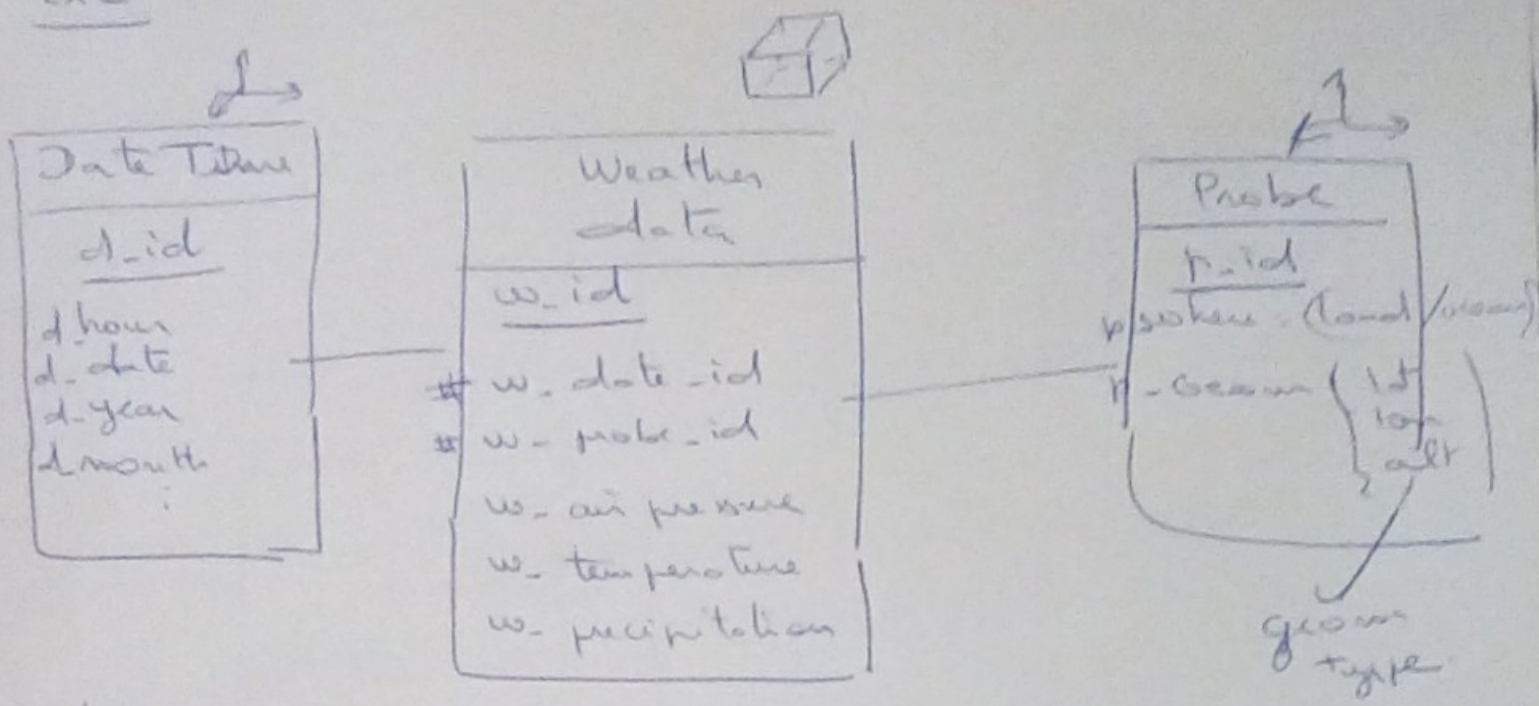
Dim 3 : doctor
- + d_Specialty
- + d_id [d_fname, d_lname]

Dim 4 : patient geog.
- + p. city
- + p. id

Dim 5 : patient age
- + p. age
- + p. id

Ex 2

#P3



Candidate Keys

Date Time : CI : not null & unique d_hour + d_date

Weather Data : CI not null & unique w_date_id + w_probe_id

OLAP Cube

Fact table : Weather data

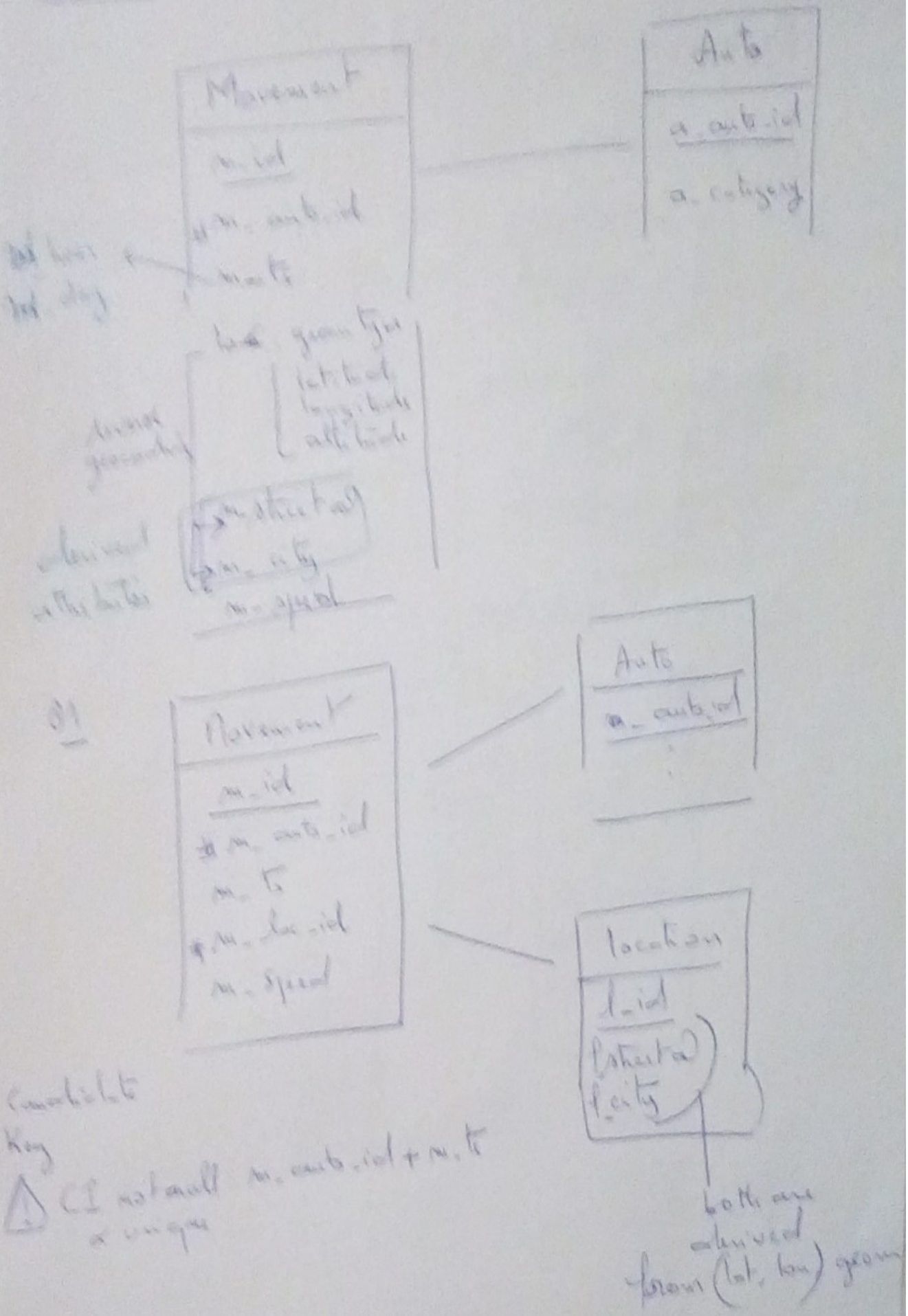
Measures : Σ w_air pressure
std_dv w_air pressure
MIN w_air pressure
MAX w_air pressure

Dim #1 Date Time
- year
- month
- date
- hour

Dim #2 probe loc
- p_where
- p_id

p 44

Ex 3


Auto
a_auto_id
a_category
Movement
m_id
m_auto_id
m_t
m_location
m_speed
Auto
a_auto_id
Movement
m_id
m_auto_id
m_t
m_loc_id
m_speed
location
l_id
l_city
both are obtained from (lat, lon) geom

OLAP Cube

Fact Table: Movement

Measures: AVG(speed)

Dim #1: Auto

- a_category
- a_auto_id

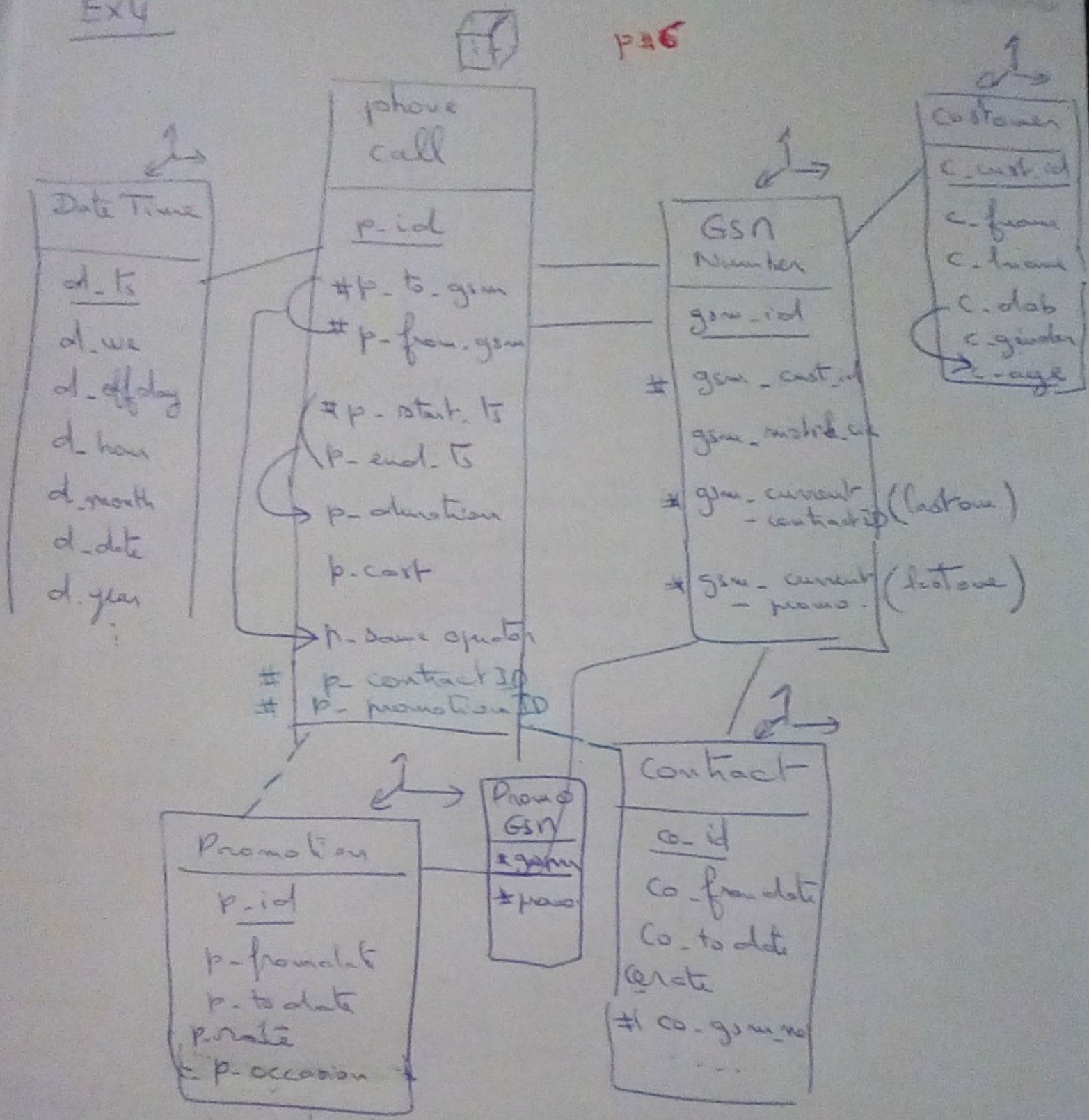
Dim #2: location

- l_city
- l_street

Dim #3: dateTime

- M_day
- M_hour

Ex4



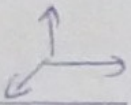
In order to track efficiently promotions & contacts, refer to these ids in the fact table Later when performing many ∞ (Shortcuts)

P04

Ex5

Course

- c_id
- c_name
- c_lect_hours
- c_lab_hours
- #C_dptid



Semester

- s_id
- s_semester
- s_year

Enrolment

- e_enrolid
- # e_sem_id
- # e_course_id
- # e_student_id
- # e_inst_id
- # e_grade_lect
- # e_grade_lab
- e_rate_cdeliv
- e_rate_c_content
- e_rate_overall

Student

- st_id
- s_fname
- ⋮
- # s_facid

Instructor

- i_id
- # i_dptid

Department

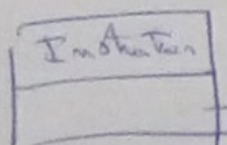
- d_id
- # f_id
- d_name

Faculty

- f_id
- f_name
- ⋮

⚠ CI : not null
& unique
s_semester + s_year

We can



Instructor

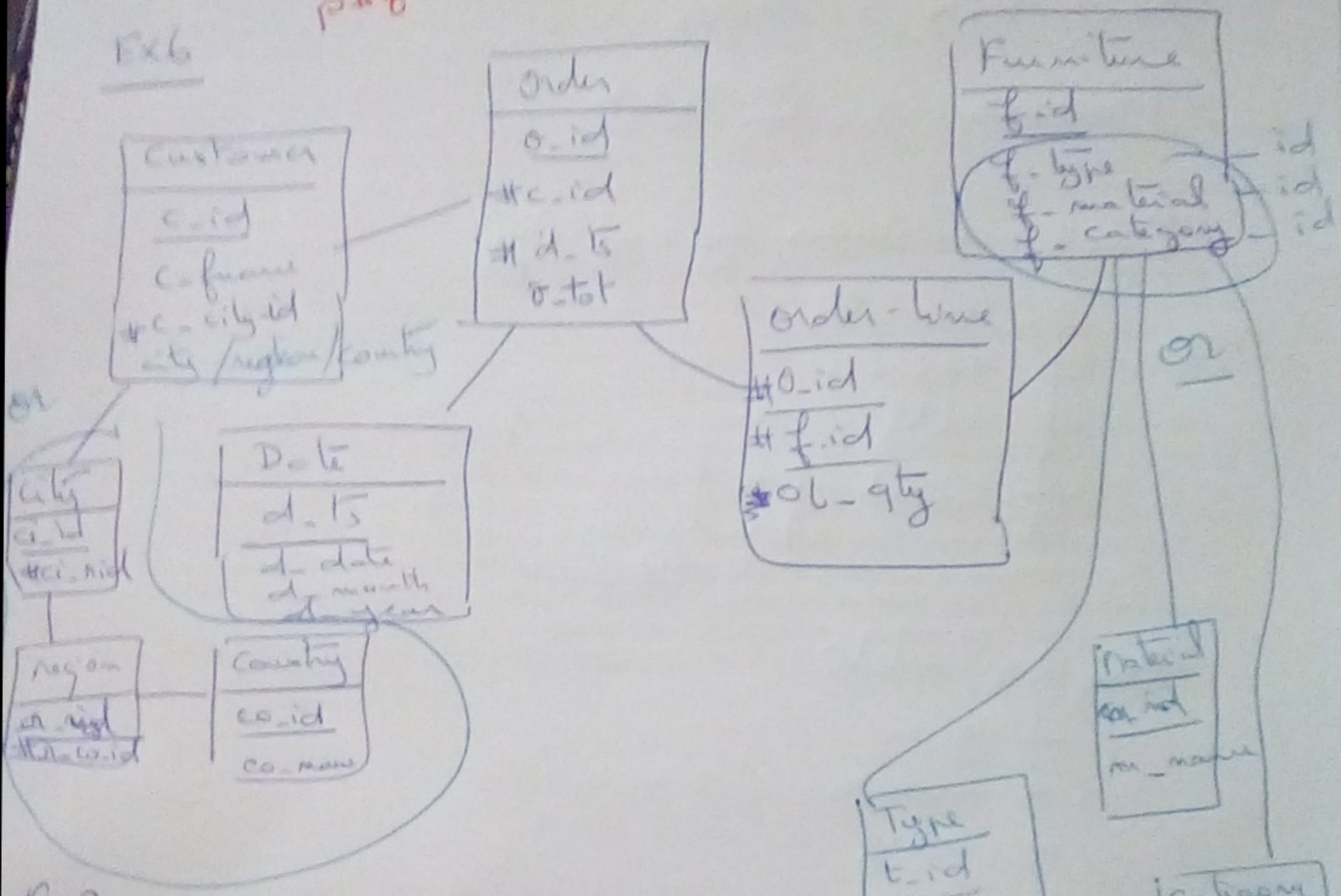
course

course - instructor - semester

Semester

PHP

Ex6



Ex7

Customer (c_sk, c_id, ...)

Customer ——[many c_sk surrogate keys
1 c_id

each c_sk → c_2

OLAP Cube

Fact table : Order

Measures : Σ o_tot

Dim 1 : customer geography

- country
- region
- city
- c_id | c_fname, c_lname, c_@ ... — properties

Dim 2 : date

- year
- month
- day
- hour

Dim 3 : Type of furniture

- type
- f_id

Dim 4 : Material of furniture

- material
- f_id

Dim 5 : category of furniture

- category
- f_id