



# University of Central Punjab

## Faculty of Information Technology

### Introduction to Database Systems

FALL 2023

#### Assignment-3

CLO #	Course Learning Outcome	Taxonomy Level
<b>CLO3</b>	The students will be able to <b>use</b> constructs of Relational Query Language and Structured Query Language.	C3

Total Marks: 100

**Due Date:**

**Instructions:**

1. This is a handwritten assignment. Do the assignment on A4 Pages.
  2. This is an individual assignment.
  3. Late submission will cause you to **lose 10% per day**.
  4. Copied assignments will get **straight ZERO**.
  5. There will be a quiz based on assignment in the same class of the submission date.
  6. There are 2 questions in total. All questions carry equal marks.
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Following is the schema and sample data of a estate agency.

#### Branch

branchNo	street	city	postcode
B005	22 Deer Rd	London	SW1 4EH
B007	16 Argyll St	Aberdeen	AB2 3SU
B003	163 Main St	Glasgow	G11 9QX
B004	32 Manse Rd	Bristol	BS99 1NZ
B002	56 Clover Dr	London	NW10 6EU

#### Staff

staffNo	fName	lName	position	sex	DOB	salary	branchNo
SL21	John	White	Manager	M	1-Oct-45	30000	B005
SG37	Ann	Beech	Assistant	F	10-Nov-60	12000	B003
SG14	David	Ford	Supervisor	M	24-Mar-58	18000	B003
SA9	Mary	Howe	Assistant	F	19-Feb-70	9000	B007
SG5	Susan	Brand	Manager	F	3-Jun-40	24000	B003
SL41	Julie	Lee	Assistant	F	13-Jun-65	9000	B005

#### PropertyForRent

propertyNo	street	city	postcode	type	rooms	rent	ownerNo	staffNo	branchNo
PA14	16 Holhead	Aberdeen	AB7 5SU	House	6	650	CO46	SA9	B007
PL94	6 Argyll St	London	NW2	Flat	4	400	CO87	SL41	B005
PG4	6 Lawrence St	Glasgow	G11 9QX	Flat	3	350	CO40		B003
PG36	2 Manor Rd	Glasgow	G32 4QX	Flat	3	375	CO93	SG37	B003
PG21	18 Dale Rd	Glasgow	G12	House	5	600	CO87	SG37	B003
PG16	5 Novar Dr	Glasgow	G12 9AX	Flat	4	450	CO93	SG14	B003

#### Client

clientNo	fName	lName	telNo	prefType	maxRent	eMail
CR76	John	Kay	0207-774-5632	Flat	425	john.kay@gmail.com
CR56	Aline	Stewart	0141-848-1825	Flat	350	astewart@hotmail.com
CR74	Mike	Ritchie	01475-392178	House	750	mritchie01@yahoo.co.uk
CR62	Mary	Tregear	01224-196720	Flat	600	maryt@hotmail.co.uk

#### PrivateOwner

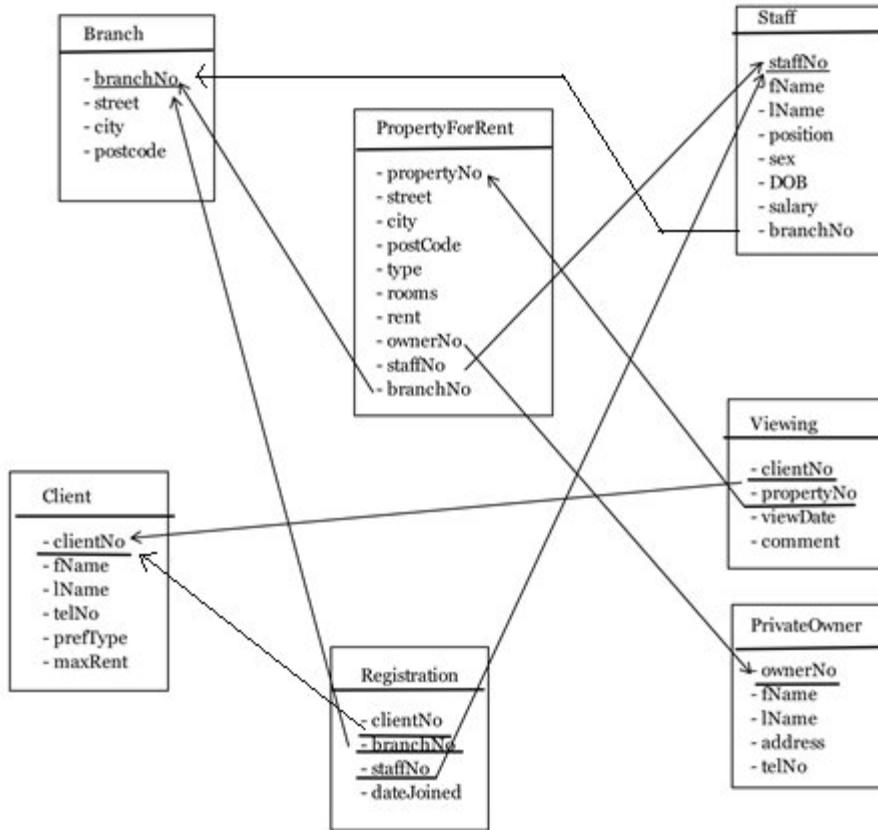
ownerNo	fName	lName	address	telNo	eMail	password
CO46	Joe	Keogh	2 Fergus Dr, Aberdeen AB2 7SX	01224-861212	jkeogh@lhh.com	*****
CO87	Carol	Farrel	6 Achray St, Glasgow G32 9DX	0141-357-7419	cfarrel@gmail.com	*****
CO40	Tina	Murphy	63 Well St, Glasgow G4 2	0141-943-1728	tinam@hotmail.com	*****
CO93	Tony	Shaw	12 Park Pl, Glasgow G4 0QR	0141-225-7025	tony.shaw@ark.com	*****

#### Viewing

clientNo	propertyNo	viewDate	comment
CR56	PA14	24-May-13	too small
CR76	PG4	20-Apr-13	too remote
CR56	PG4	26-May-13	
CR62	PA14	14-May-13	no dining room
CR56	PG36	28-Apr-13	

#### Registration

clientNo	branchNo	staffNo	dateJoined
CR76	B005	SL41	2-Jan-13
CR56	B003	SG37	11-Apr-12
CR74	B003	SG37	16-Nov-11
CR62	B007	SA9	7-Mar-12



**Q1 For the information given above write RA & SQL statements to fulfill the following requirements.**

1. Show the Names and positions of the staff members who are supervisors or managers and are managing some property. Also show the details of the owners of the property. (Hint: Use Join)
2. Show the names of the owners whose properties in Glasgow were viewed by clients looking for a flat but left no comments. (Hint: Nested Query)
3. Show the details of staff members who work in a branch not located in the same city as the location of the property that they manage. (Hint: CoRelated Query)
4. Show the details of all clients and the address of the properties that they have viewed in Glasgow. (Hint: Outer Join)
5. Show the number of properties and average expected monthly rent for properties managed by staff members born after 1955. (Hint: Aggregate Function)
6. Show the number of properties managed by each staff member from every London branch. Also show the address of the branch and the name and position of the staff member. (Hint: Group By)
7. For each city show the average expected rent for different type of properties. (Hint: Group By)
8. Show the total number of properties visited by each client and the average length of comments (number of characters) left by them. (Hint: Outer Join & Group By)
9. Show the details of the clients whose max rent limit is less than the average rent of the property type they are looking for. (Hint: Aggregate Function & Condition)
10. Show the details of the clients who have viewed the properties with the maximum rent. (Hint: Aggregate Function & Condition))

=====THE END=====