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Terakreditasi BAN PT A (Unggul) QS STARS RATING SYSTEM 2019 JABEE CPA AUSTRALIA ICAEW CHARTERED ACCOUNTANTS

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DATABASE DESIGN & MANAGEMENT

AFINA PUTRI DAYANTI - 825200049

PROGRAM STUDI SISTEM INFORMASI
UNIVERSITAS TARUMANAGARA

The University Accommodation Office Case Study

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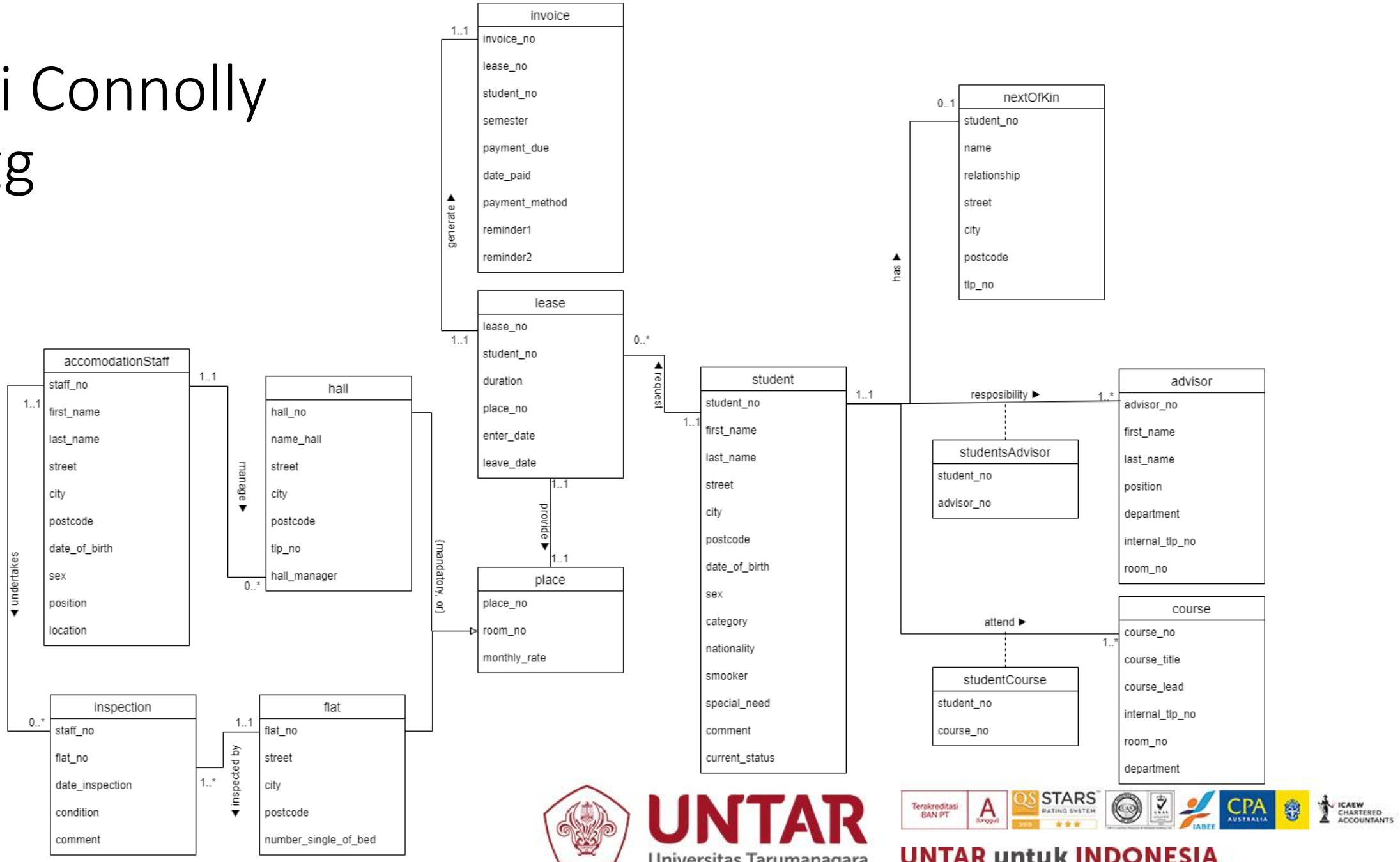
Notasi Connolly & Begg



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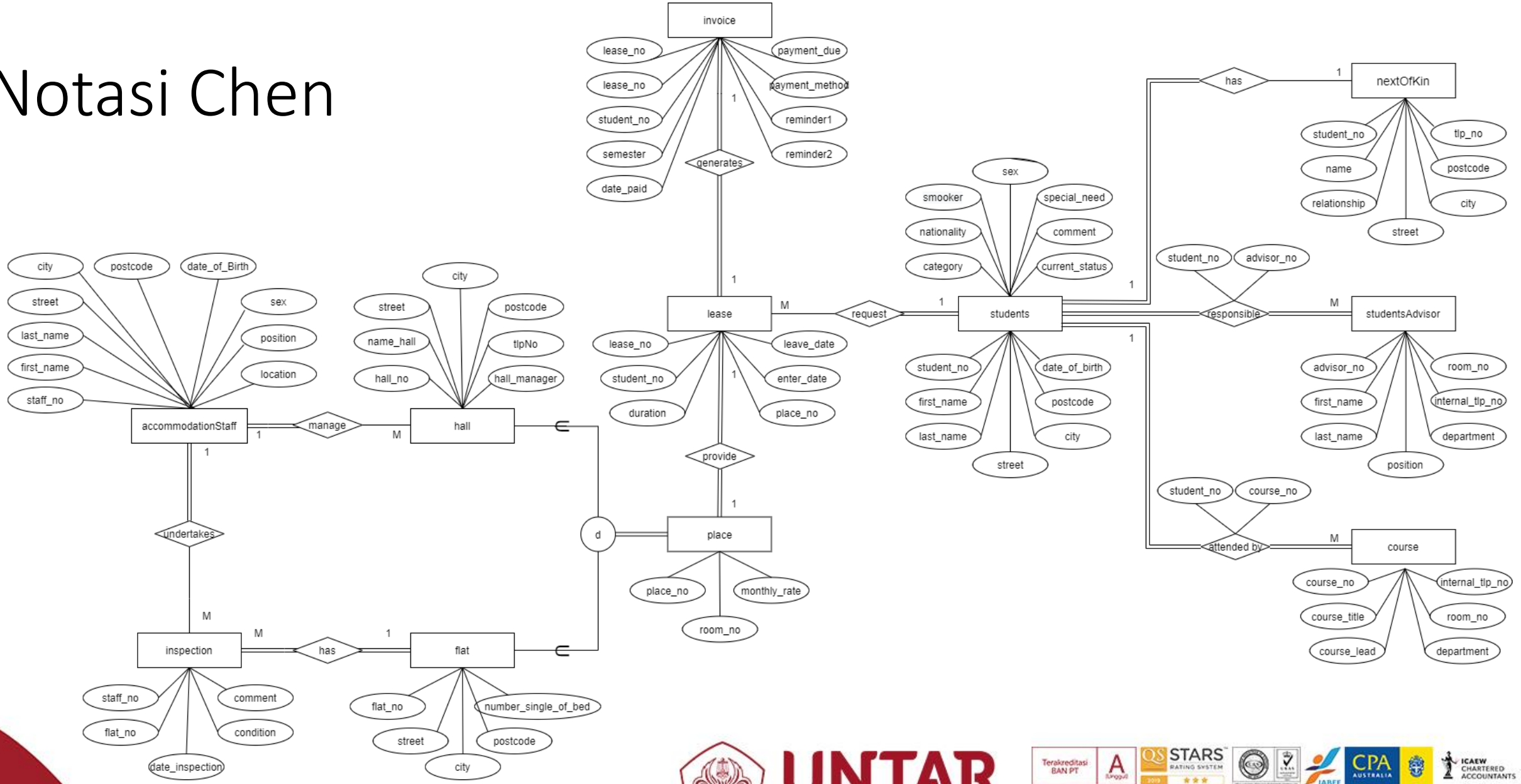

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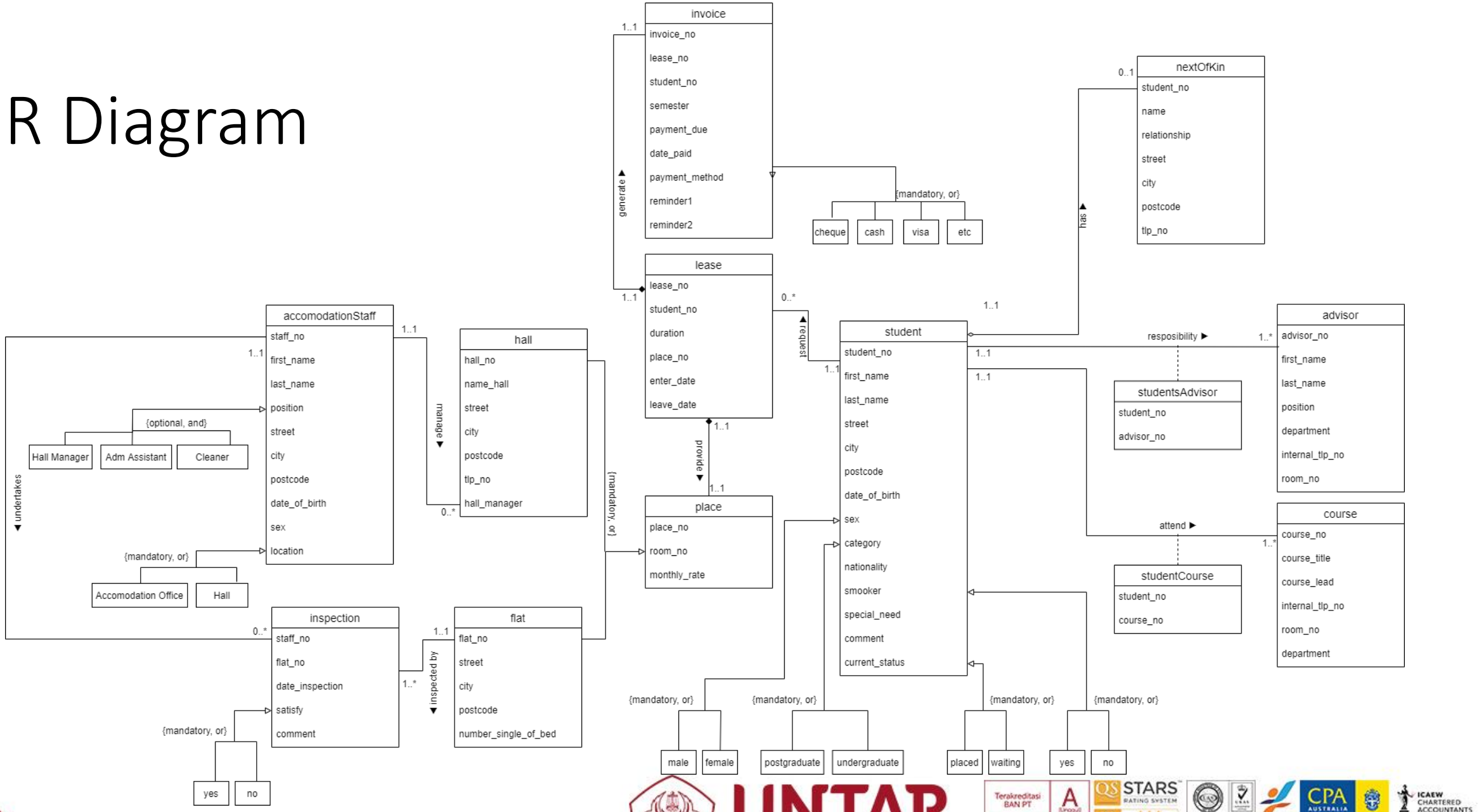
EER Diagram



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- Students

The data stored on each full-time student includes: the matriculation number, name (first and last name), home address (street, city, postcode), date of birth, sex, category of student (for example, first year undergraduate, postgraduate), nationality, smoker (yes or no), special needs, any additional comments, current status (placed/waiting), and ~~what course the student is studying on.~~ The student information stored relates to those currently renting a room and those on the waiting list. Students may rent a room in a hall of residence or student flat. When a student joins the University, he or she is assigned to a member of staff who acts as his or her Advisor of Studies. The Advisor of Studies is responsible for monitoring the student's welfare and academic progression throughout his or her time at University. The data held on a student's Advisor includes full name, position, name of department, internal telephone number, and room number.

student

student_no	first_name	last_name	street	city	postcode	date_of_birth	sex	category	nationality	smoker	special_need	comment	current_status
S001	Zayn	Malik	88, Ackworth	Bradford	BD001	12/01/1993	M	postgraduate	UK	Yes	null	null	placed
S002	Gigi	Hadid	91, Barnstaple	LA	LA009	23/04/1995	F	postgraduate	US	No	null	null	waiting
S003	Khai	Malik	10, Woodhall	NY	NY012	21/09/1998	F	undergraduate	UK	No	AC	null	placed

- **students**

PK : student_no

- **advisor**

PK : advisor_no

- **studentAdvisor**

PK : student_no

FK : student_no references student(student_no)

advisor_no references advisor(advisor_no)

studentAdvisor

student_no	advisor_no
S001	A002
S002	A002
S003	A001

advisor

advisor_no	full_name	position	department	tlp_no	room_no
A001	Harry Styles	Vice Principal	FT	339-2178	R021
A002	Niall Horan	Supervisor of STEM Programs	FTI	339-3179	R025
A003	Liam Payne	Superintendent	FH	339-4180	R059

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- Halls of residence

Each hall of residence has a name, address, telephone number, and a hall manager who supervises the operation of the hall. The halls provide only single rooms, which have a room number, place number, and monthly rent rate. The place number uniquely identifies each room in all halls controlled by the Accommodation Office and is used when renting a room to a student.

- Student flats

The Accommodation Office also offers student flats. These flats are fully furnished and provide single-room accommodation for groups of three, four, or five students. The information held on student flats includes a flat number, address, and the number of single bedrooms available in each flat. The flat number uniquely identifies each flat. Each bedroom in a flat has a monthly rent rate, room number, and a place number. The place number uniquely identifies each room available in all student flats and is used when renting a room to a student.

hall

hall_no	name_hall	street	city	postcode	tlp_no	hall_manager
H1	Rose Hall	15, Strand	Oxford	OX002	419-2178	S001
H2	Sunflower Hall	44, Fleet Street	Sheffield	SF018	519-3179	S002
H3	Daisy Hall	34, Pudding Lane	Wells	WL011	349-2178	S002

flat

Flat_no	street	city	postcode	number_single_of_bed
F1	98, Aldwych	Bradford	BD001	3
F2	11, Cheapside	Canterbury	CB009	4
F3	20, Whitehall	Leeds	LD012	5

place

place_no	room_no	monthly_rate
H021	H2	$ 1,000.00
H022	H2	$ 2,000.00
H011	H1	$ 1,500.00
F011	F1	$ 1,000.00
F032	F3	$ 2,000.00
F033	F3	$ 1,500.00

- **hall**

PK : student_no

FK : hall_manager references accomodationStaff(staff_no)

- **flat**

PK : flat_no

- **place (table generalization)**

PK : place_no

FK : room_no references hall(hall_no)

room_no references flat(flat_no)

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- Leases

A student may rent a room in a hall or student flat for various periods of time. New lease agreements are negotiated at the start of each academic year with a minimum rental period of one semester and a maximum rental period of one year, which includes Semesters 1, 2, and the Summer Semester. Each individual lease agreement between a student and the Accommodation Office is uniquely identified using a lease number. The data stored on each lease includes the lease number, duration of the lease (given as semesters), ~~name~~ and matriculation number of the student, place number, ~~room number, address details of the hall or student flat~~, and the date the student wishes to enter the room, and the date the student wishes to leave the room (if known).

- Invoices

At the start of each semester each student is sent an invoice for the following rental period. Each invoice has a unique invoice number. The data stored on each invoice includes the invoice number, lease number, semester, payment due, ~~student's full name~~ and matriculation number, place number~~, room number, and the address of the hall or flat~~. Additional data is also held on the payment of the invoice and includes the date the invoice was paid, the method of payment (cheque, cash, Visa, etc.), the date the first and second reminder is sent (if necessary).

lease

lease_no	student_no	duration	place_no	enter_date	leave_date
L001	S003	1	H022	09/07/2020	12/01/2021
L002	S001	2	H011	05/07/2020	03/06/2021
L003	S003	1	F011	24/06/2021	12/08/2021

invoice

invoice_no	lease_no	student_no	semester	payment_due	date_paid	payment_method	reminder1	reminder2
I001	L001	S003	1	01/01/2021	12/01/2021	visa	01/01/2021	04/01/2021
I002	L002	S001	1	01/01/2021	01/01/2021	cash	01/01/2021	null
I003	L002	S001	2	01/06/2021	null	null	null	null
I004	L003	S003	3	01/08/2021	null	null	null	null

- **lease**

PK : lease_no

FK : student_no references student(student_no)

place_no references place(place_no)

- **invoice**

PK : invoice_no

FK : lease_no references lease(lease_no)

student_no references student(student_no)

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- Student flat inspections

Student flats are inspected by staff on a regular basis to ensure that the accommodation is well maintained. The information recorded for each inspection is the ~~name of the~~ member of staff who carried out the inspection, the date of inspection, an indication of whether the property was found to be in a satisfactory condition (yes or no), and any additional comments.

- Student flat inspections

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inspection				
staff_no	flat_no	date_inspection	satisfy	comment
S004	F1	01/07/2020	Yes	null
S005	F2	02/07/2020	Yes	null
S004	F3	03/07/2020	No	AC broken
S004	F1	01/01/2021	No	dirty bed
S004	F2	02/01/2021	Yes	null
S005	F3	03/01/2021	Yes	null

- **inspection**

PK : staff_no, flat_no, date_inspection

FK : staff_no references accommodationStaff(staff_no)

flat_no references flat(flat_no)

- **accomodationStaff**

PK : staff_no

accomodationStaff									
staff_no	first_name	last_name	street	city	postcode	date_of_birth	sex	position	location
S001	Selena	Gomes	81, Cleveland	LA	LA012	22/07/1992	F	Hall Manager	Hall
S002	Taylor	Swift	90, Hunter Street	NY	NY009	13/12/1989	F	Hall Manager	Hall
S003	Ariana	Grande	28, Rowe Street	Bradford	BD080	26/06/1993	F	Adm. Assistant	AO
S004	Dua	Lipa	41, Whitlam	Canterbury	CB031	22/08/1995	F	Cleaner	AO
S005	Nick	Jonas	50, Parade	Leeds	LD080	16/09/1992	M	Cleaner	AO

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- Courses

The Accommodation Office also stores a limited amount of information on the courses run by the University including the course number, course title (including year), course leader, internal telephone number, room number, and department name. Each student is associated with a single course.

course					
course_no	course_title	course_lead	internal_tlp_no	room_no	department
C001	Math 2021	Mr. William	319-2178	R100	FT
C002	English 2021	Mr. Javadd	319-3179	R200	FIB
C003	Sains 2021	Mrs. Styles	319-2178	R300	FMIPA

studentCourse	
student_no	course_no
S001	C003
S002	C001
S003	C001

- **course**

PK : course_no

- **studentCourse**

PK : student_no

FK : student_no references student(student_no)

course_no references course(course_no)

- Next-of-kin

Whenever possible, information on a student's next-of-kin is stored which includes the name, relationship, address (street, city, postcode), and contact telephone number.

nextOfKin						
student_no	name	relationship	street	city	postcode	tlp_no
S001	Waliyha Malik	Sister	88, Ackworth	Bradford	BD001	419-2222
S002	Bella Hadid	Sister	92, Barnstaple	LA	LA009	519-3279

- **nextOfKin**

PK : student_no

FK : student_no references student(student_no)

The Wellmeadows Hospital Case Study

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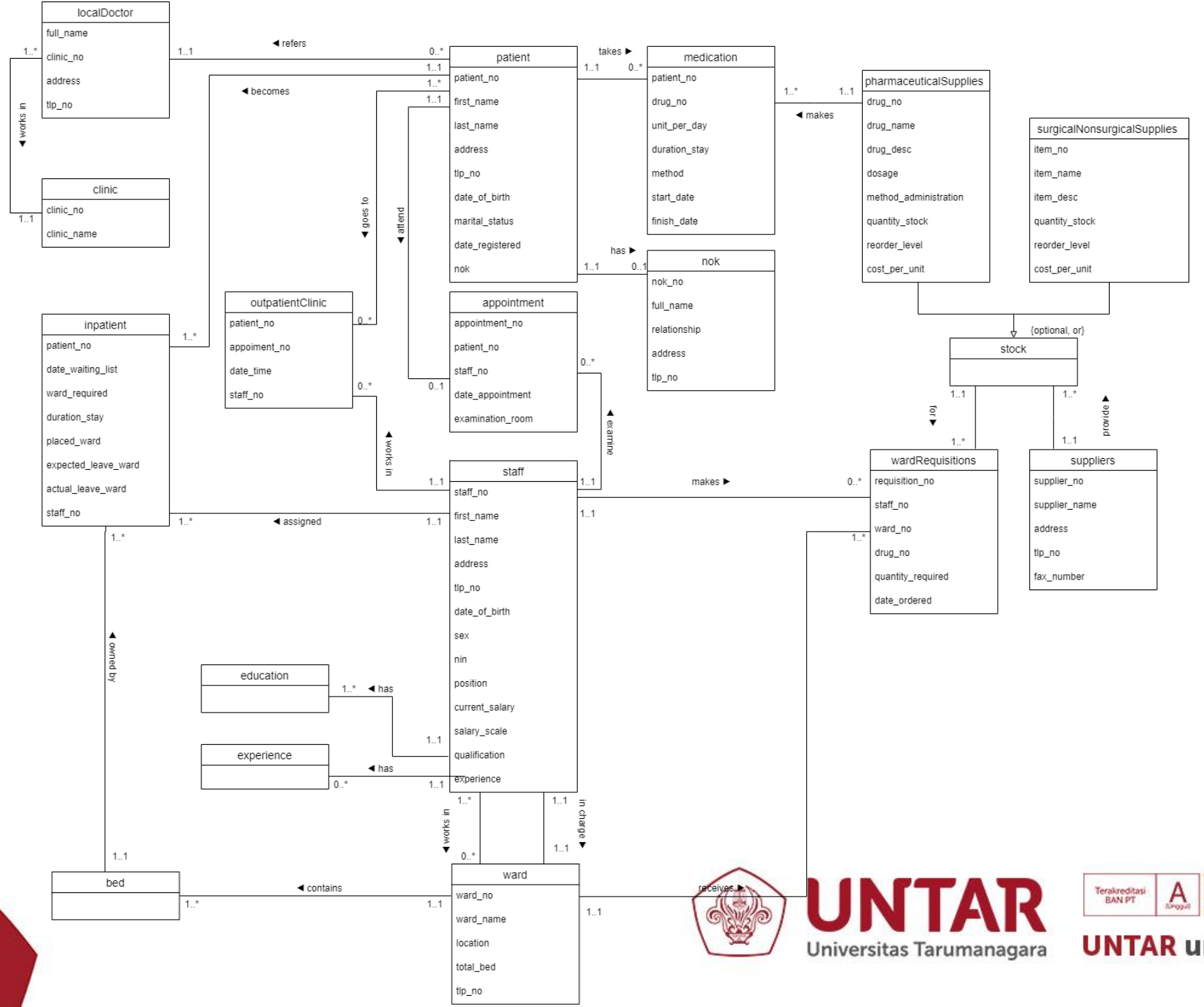

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