

Mirna Arivalagan - 220142881
Database & Information Retrieval – SIT772
Assignment 1A
Trimester 3 2021

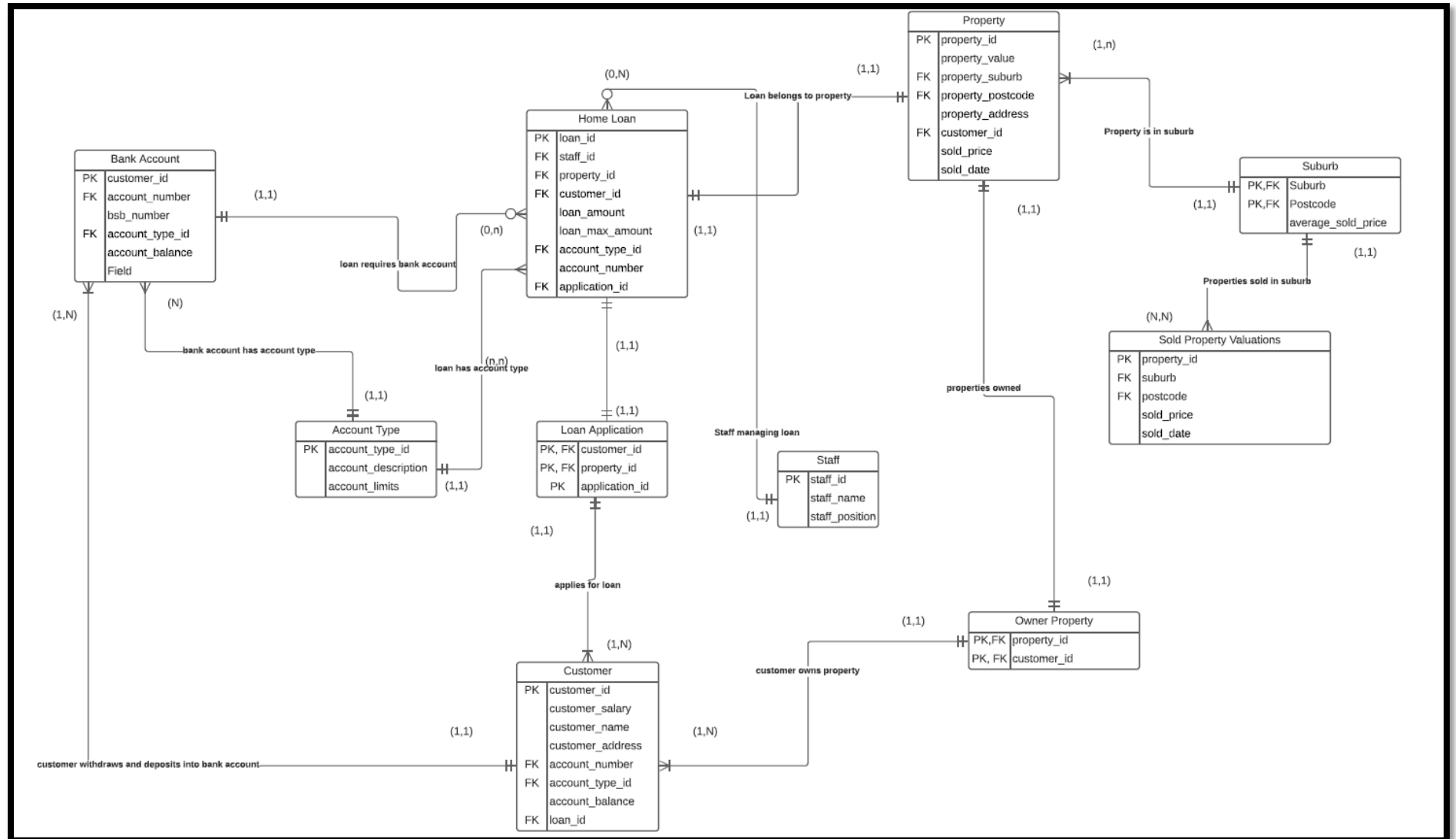
Question 1 – Home Loan ERD

Assumptions:

- Average sold price is calculated from sold properties in the last 10 years that exists in the bank's database.
- Bank account can only be held by 1 customer and for join home loan application, 2 account numbers are captured in the table.

Business Rules:

- Customer needs to have a bank account to be a customer of the bank
- Only 1 customer can be linked to an account
- Multiple customers can apply for a home loan
- A loan application bridging entity was included to avoid many to many relationships and an application id is unique and attached to each home loan
- Only 1 staff can be assigned to manage the home loan and a staff may not be assigned a home loan to manage. The staff entity covers all staff, not just home loan.
- More than 1 customer can own a property, and each customer can own more than 1 property.
- An Owner property entity was designed as a bridging entity to avoid many to many relationships.



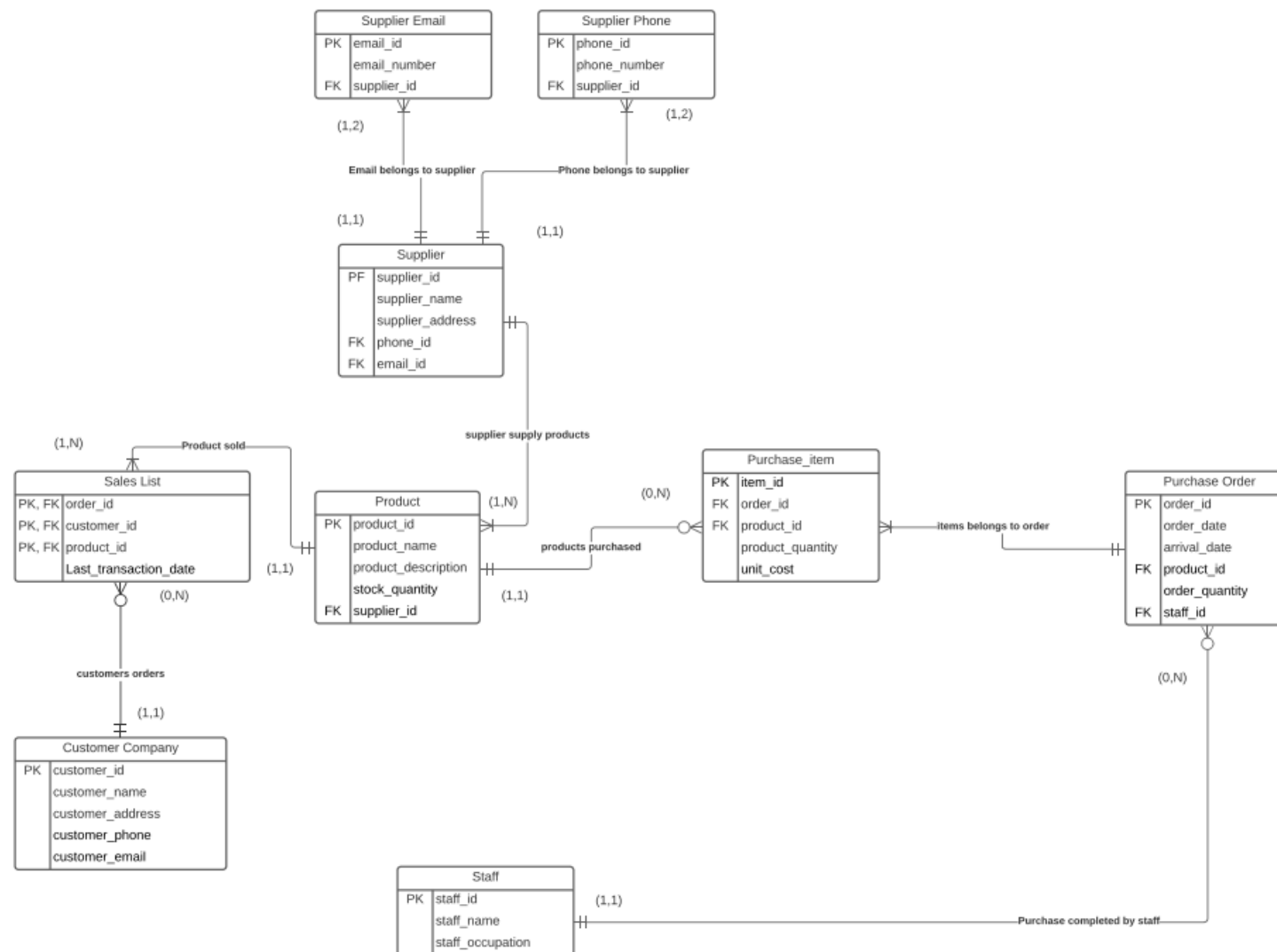
Question 2 – Aladin ERD

Assumptions:

- For a supplier to be on the database, the supplier must have sold products to Aladin
- Last transaction date is a calculated field that is obtained from a transactions log that is not in the scope of the assignment brief

Business Rules:

- Supplier can have more than 1 and maximum 2 phone numbers. A phone_id and email_id key was created so that this can be used to look up the multiple numbers in the supplier email and supplier phone entity.
- Supplier can supply 1 or many products
- A product can be purchased and reflected in a purchase item, or a product can stay as not been purchased.
- A purchase item is unique for each product for each purchase order, thus can only have 1 purchase order linked
- A customer can have a sales list item or can stay as a customer without any sales
- Purchase item is a bridging entity between product and purchase order to avoid many to many relationships
- Staff has to complete a purchase order. A staff can remain in the staff entity without a purchase order as the staff can be staffed in other areas of the business



Question 3 – Deakin Accommodation ERD

Assumptions:

- Each bed that is available to be leased has a unique place_id.
- Student can only be assigned 1 mentor
- Program entity is the same as course entity (Masters of Business Analytics)
- Room number under program/course relates to the room that the director sits in within the campus
- Student can have 2 leases as there maybe a transition period between the current lease ending and new lease starting
- All address fields in ERD has been specified as address rather than breaking down by street and suburb to reduce the complexity of the diagram, but each line in the address will have its separate field in the actual database.
- Unit and apartments are the same thing.

Business Rules:

- Student can only be enrolled in 1 course/program
- Staff entity covers all staff – advisors, staff that inspects, course director and hall manager which can be looked up using the staff id within the inspections and program entities.
- Place entity is only linked to the individual rooms and bed (dorms) and is linked to the student's entity.
- A student can have either 0 place as they may be on a waiting list, or 2 place as they maybe transitioning between years/accommodations type
- A staff can be assigned to either 0 or more than 1 programs as the director
- A staff can be assigned to 0 or more than 1 inspections or 0 or more than 1 hall managers.
- A student can have 0 or more than 1 inspections
- Each unit can only have between 3-5 rooms
- Each dorm bed can only be assigned to an undergrad student
- Each dorm can only have 1 building
- Each dorm bed can only have 1 dorm

- Each hall room can only have 1 hall id
- Each unit room can only have 1 unit id
- A student can have 0 or 1 guardian
- A student can have 0 or more than 1 payment. 0 payments are for students on waiting list

Ps: ERD diagram for this is attached separately in the assignment folder as it's too large.

