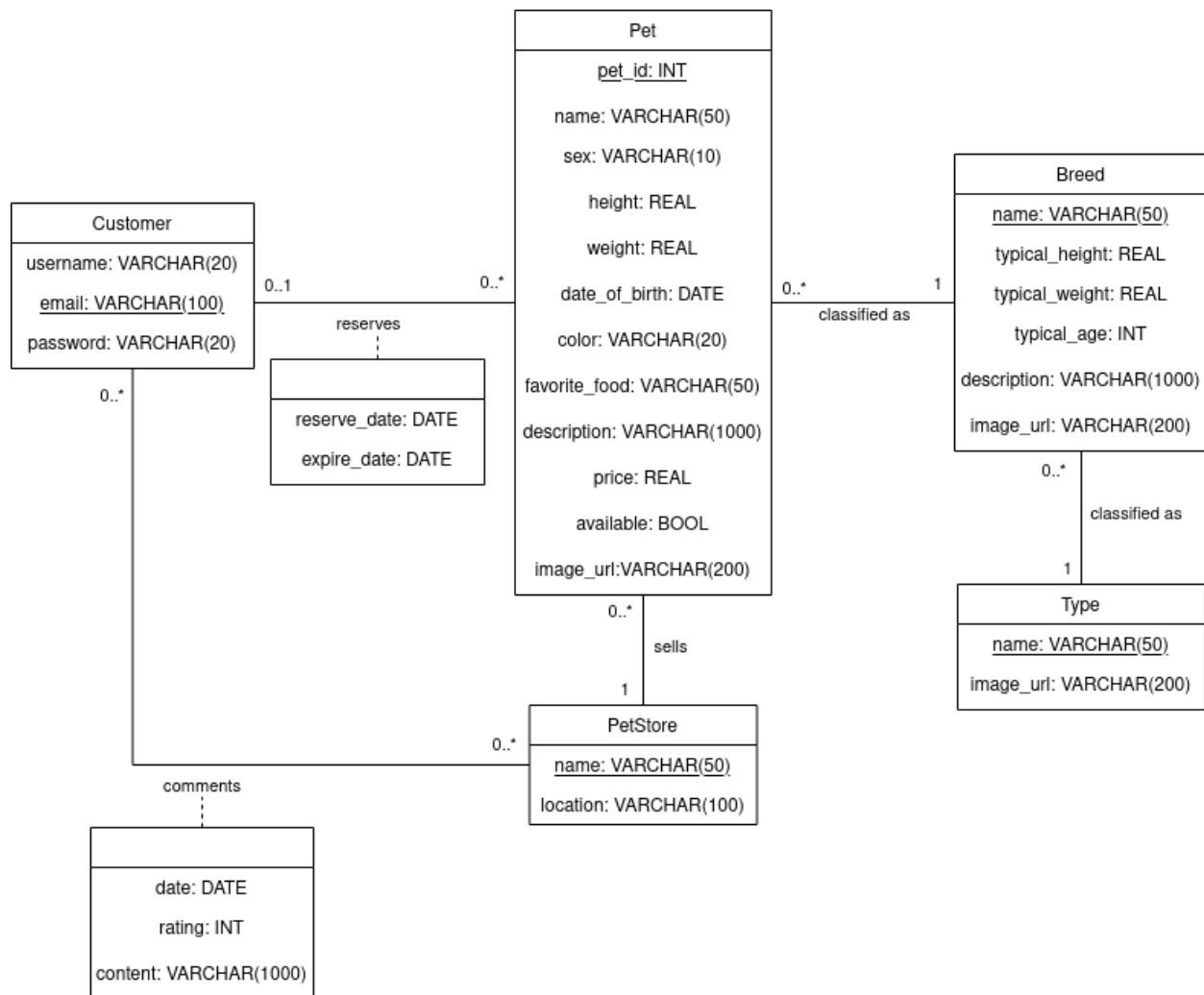# Stage 2: Conceptual and Logical Database Design

UML Diagram:

Assumptions of the UML diagram:

All the lengths of VARCHARs are assumed not to exceed the given limit.

Typical height of a certain breed is just a single value instead of a range. We also assume this for typical weight and typical age.

The sex of a pet is either male or female, represented as a VARCHAR.

Description of each relationship and its cardinality:

Reviews:

For customers, each customer can only reserve 0 to as many pets he wants and each pet can be reserved at most 1 customer.

Reviews:

Customers can make 0 to many reviews to the pet store and each pet store can also make 0 to many reviews to each customer.

Sells:

Each pet must be sold in exactly one pet store but each pet store can have 0 to many pets for sale.

Classifies as:

Each pet must be classified as a breed but each breed can have 0 to many pets.

Each breed must be classified as a type but each type of pet can have 0 to many breeds.

Conversion From ER Design to Relational Schema

Customer(
      email: VARCHAR(100) PK,
      username: VARCHAR(20),
      password: VARCHAR(20)
)

Pet(
      pet_id: INT PK,
      name: VARCHAR(50),
      sex: VARCHAR(10),
      height: REAL,
      weight: REAL,
      date_of_birth: Date,
      color: VARCHAR(20),
      favourite_food: VARCHAR(50),
      description: CARCHAR(1000),
      price: REAL,
      available: BOOL,
      image_url: VARCHAR(200),
      sold_pet_store_name: VARCHAR(50) FK to PetStore.name,
      breed_name: VARCHAR(50) FK to Breed.name
)

Breed(
      name: VARCHAR(50) PK,
      typical_height: REAL,
      typical_weight: REAL,
      typical_age: INT,
      description: CARCHAR(1000),
      image_url: VARCHAR(200),
      type_name: VARCHAR(50) FK to Type.name
)

Type(
      name: VARCHAR(50) PK,
      image_url: VARCHAR(200)
)
PetStore(
      name: VARCHAR(50) PK,
      location: VARCHAR(100)
)
comments(
      email: VARCHAR(100) PK FK to Customer.email
      name: VARCHAR(50) PK FK to PetStore.name
      date: Date
      rating: INT
      content: VARCHAR(1000)
)