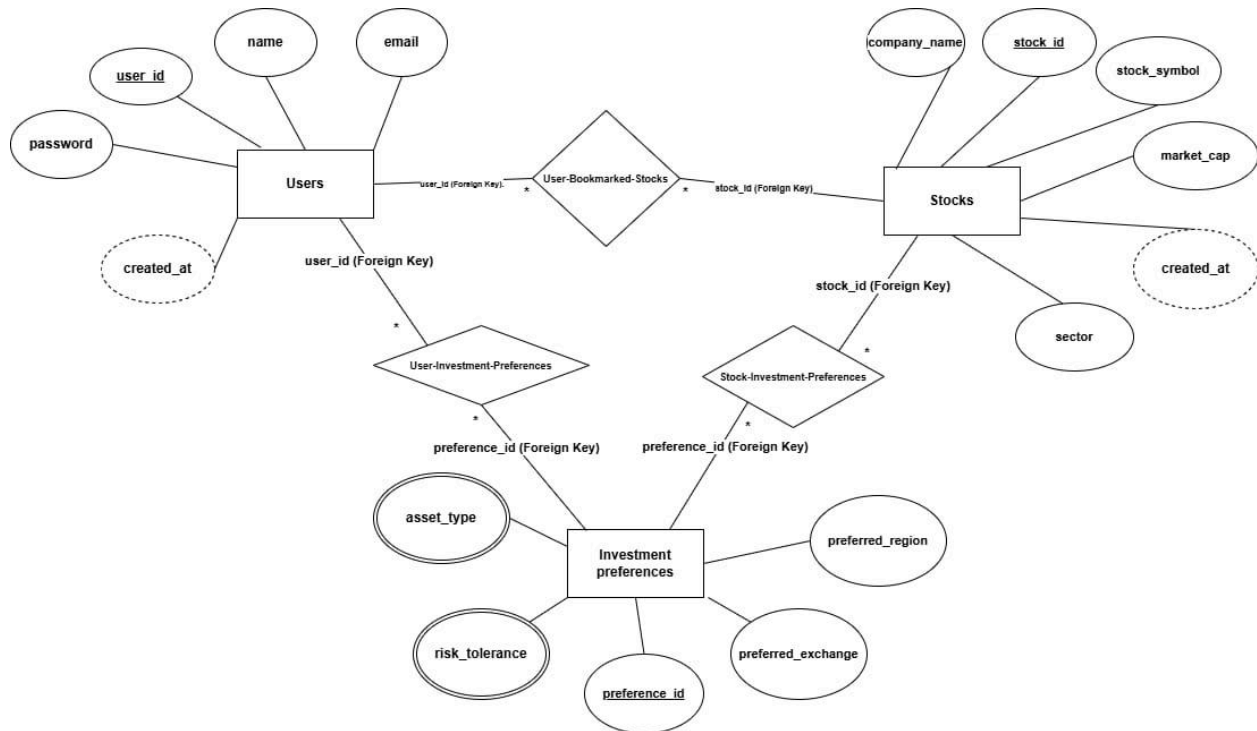# ENSF 608

Databases

Logical Schema Document

ER Diagram For Stock Recommendation System

Core Entities Tables
1.Users
CREATE TABLE Users (
user_id INT AUTO_INCREMENT PRIMARY KEY,
name VARCHAR(50) NOT NULL,
email VARCHAR(100) UNIQUE NOT NULL,
password VARCHAR(255) NOT NULL,
created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);

2.Stocks
```sql
CREATE TABLE Stocks (
stock_id INT AUTO_INCREMENT PRIMARY KEY,
stock_symbol VARCHAR(10) UNIQUE NOT NULL,
company_name VARCHAR(255) NOT NULL,
sector VARCHAR(100),
market_cap DECIMAL(15, 2),
created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

3.Investment Preferences
```sql
CREATE TABLE Investment_Preferences (
preference_id INT AUTO_INCREMENT PRIMARY KEY,
risk_tolerance ENUM('low', 'medium', 'high') NOT NULL,
asset_type ENUM('stocks', 'bonds', 'options') NOT NULL,
preferred_region VARCHAR(100),
preferred_exchange VARCHAR(100)
);
```

Relationship Tables
1.User-Stock Bookmark Relationship
```sql
CREATE TABLE User_Bookmarked_Stocks_Rel (
user_id INT NOT NULL,
stock_id INT NOT NULL,
bookmark_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
PRIMARY KEY (user_id, stock_id),
FOREIGN KEY (user_id) REFERENCES Users(user_id) ON DELETE CASCADE,
FOREIGN KEY (stock_id) REFERENCES Stocks(stock_id) ON DELETE CASCADE
);
```

2.User-Investment Preference Relationship
```sql
CREATE TABLE User_Investment_Preferences_Rel (
user_id INT NOT NULL UNIQUE,
preference_id INT NOT NULL,
PRIMARY KEY (user_id, preference_id),
FOREIGN KEY (user_id) REFERENCES Users(user_id) ON DELETE CASCADE,
FOREIGN KEY (preference_id) REFERENCES Investment_Preferences(preference_id)
ON DELETE CASCADE
);
```

3. Stock-Invenstment Preference Relationship

```
CREATE TABLE Stock_Investment_Preference_Rel (
stock_id INT NOT NULL,
preference_id INT NOT NULL,
PRIMARY KEY (stock_id, preference_id),
FOREIGN KEY (stock_id) REFERENCES Stocks(stock_id) ON DELETE CASCADE,
FOREIGN KEY (preference_id) REFERENCES Investment_Preferences(preference_id)
ON DELETE CASCADE
);
```