BT2102
Assignment 1A

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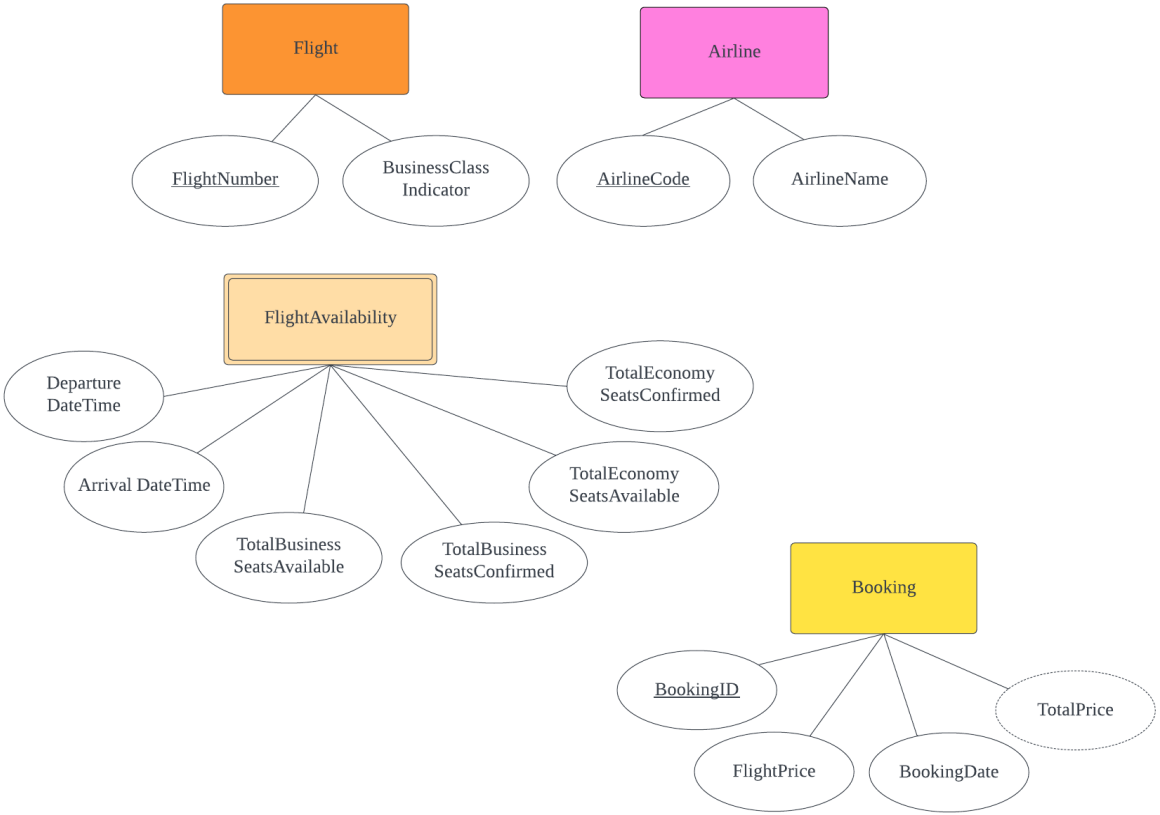
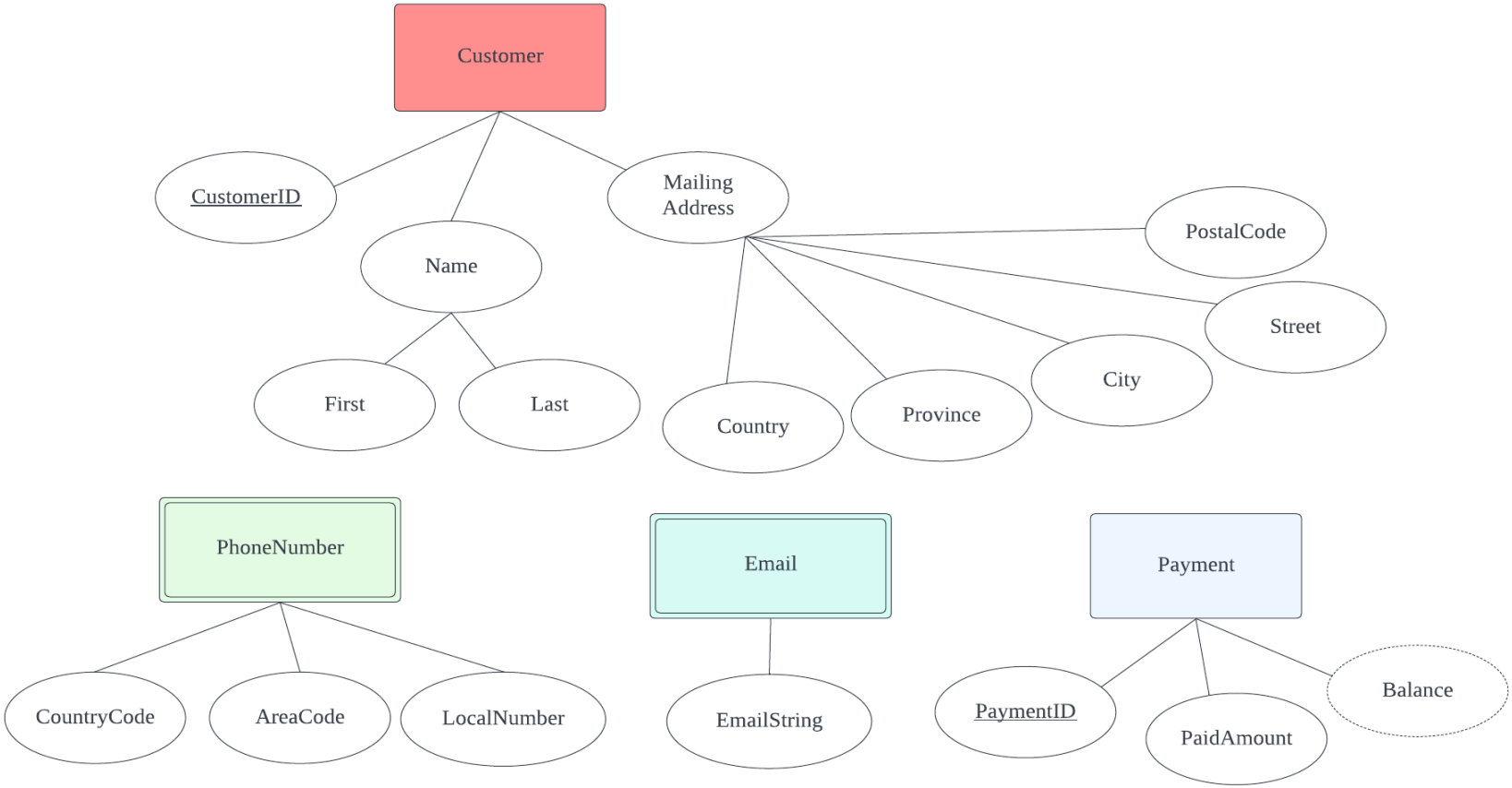
Final Entities and Attributes

Underline:
Primary Key



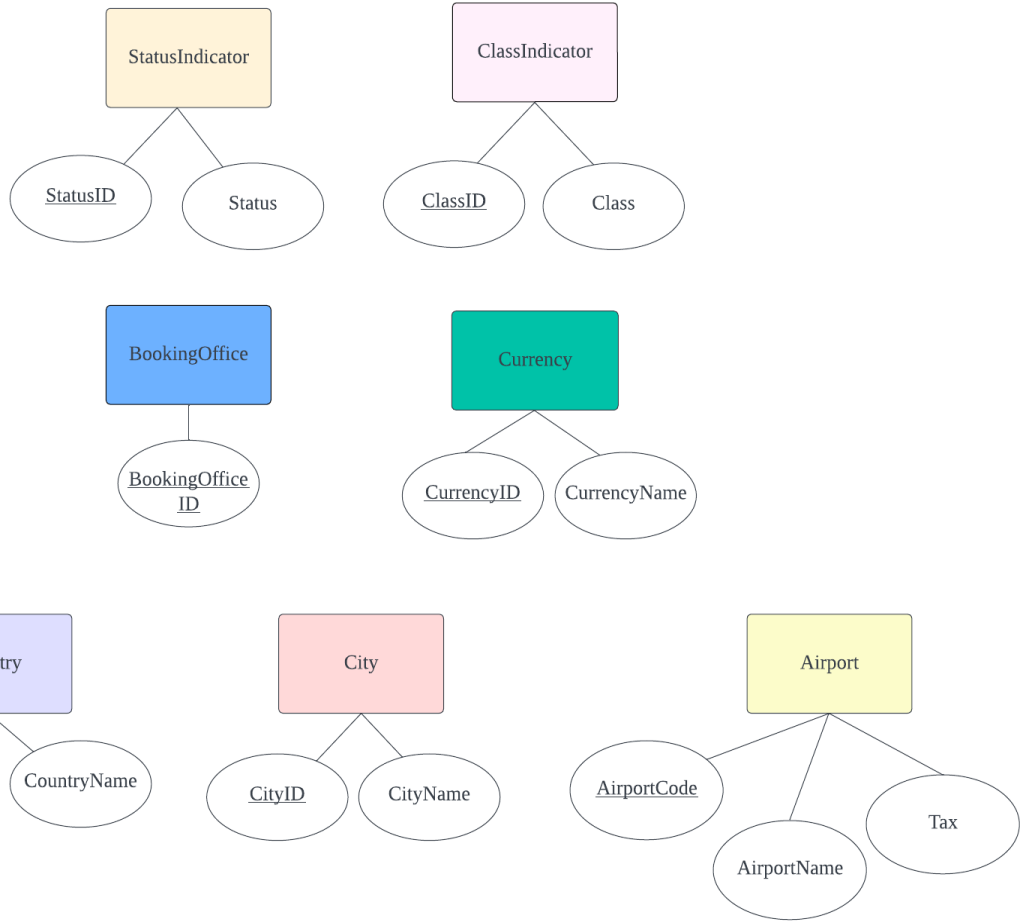
Final Entities and Attributes

Underline: Primary Key

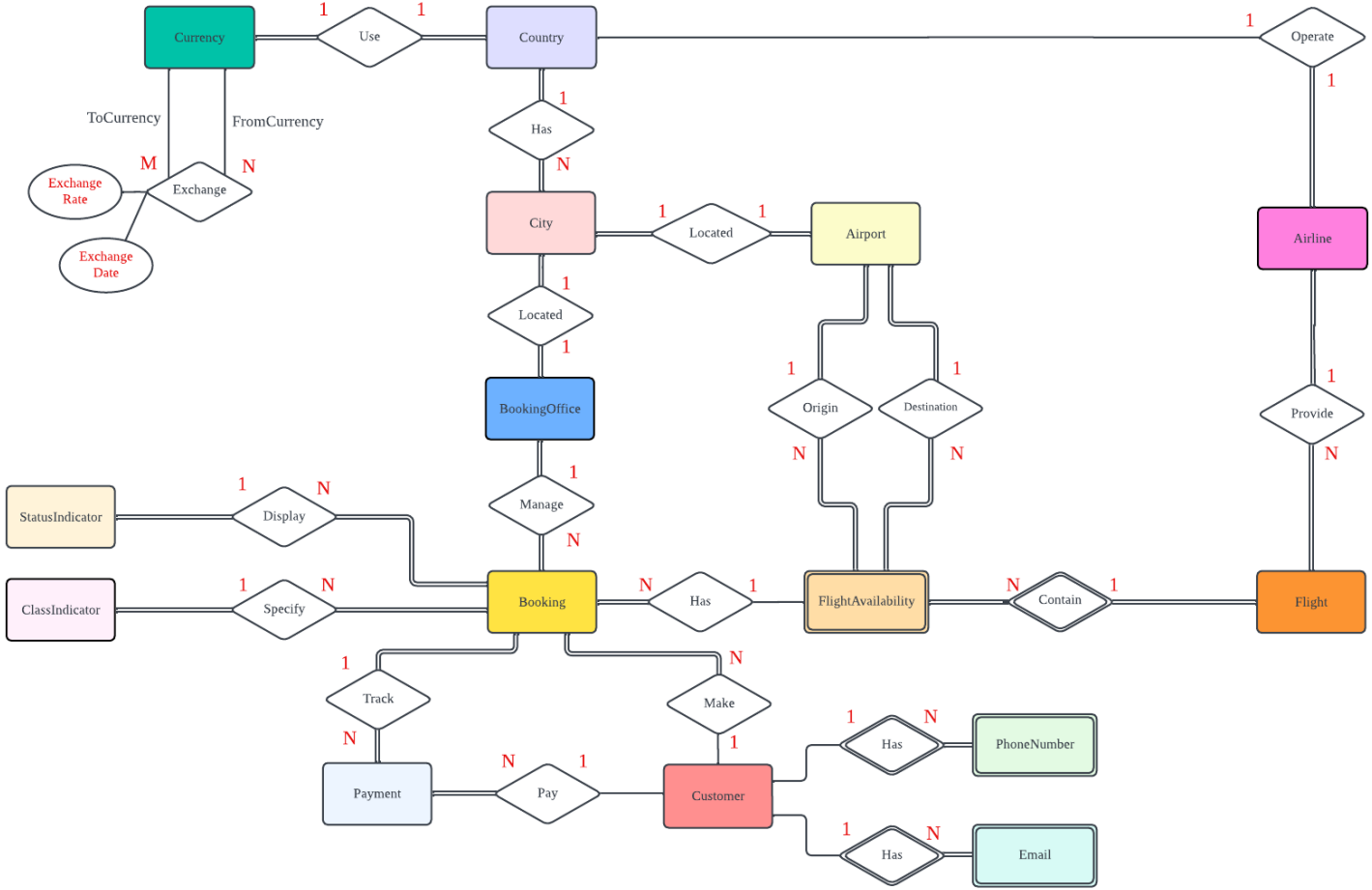


Final Entities and Attributes

Underline:
Primary Key



Final Conceptual Data Model



Final Logical Schema

Legend:
Primary Key
Foreign Key

Flight (FlightNumber, BusinessClassIndicator, AirlineCode)

Airline (AirlineCode, AirlineName)

FlightAvailability (FlightNumber, DepartureDateTime, ArrivalDateTime, TotalBusinessSeatsAvailable, TotalEconomySeatsAvailable, TotalBusinessSeatsConfirmed, TotalEconomySeatsConfirmed, OriginAirportCode, DestinationAirportCode)

Booking (BookingID, FlightPrice, BookingDate, TotalPrice, FlightNumber, DepartureDateTime, ArrivalDateTime, CustomerID, PaymentID, ClassID, StatusID, BookingOfficeID)

Customer (CustomerID, First, Last, Country, Province, City, Street, PostalCode)

PhoneNumber (CustomerID, LocalNumber, CountryCode, AreaCode)

Email (CustomerID, EmailString)

Payment (PaymentID, PaidAmount, Balance, CustomerID, BookingID)

StatusIndicator (StatusID, Status)

ClassIndicator (ClassID, Class)

BookingOffice(BookingOfficeID)

Currency(CurrencyID, CurrencyName, CountryID)

City (CityID, CityName, CountryID, AirportCode, BookingOfficeID)

Country (CountryID, CountryName, AirlineCode)

Airport (AirportCode, AirportName, Tax)

Exchange (FromCurrency, ToCurrency, ExchangeDate, ExchangeRate)

Final Logical Data Model

Flight (FlightNumber, BusinessClassIndicator, AirlineCode)
Primary Key FlightNumber
Foreign Key AirlineCode references Airline(AirlineCode)

Email (CustomerID, EmailString)
Primary Key CustomerID, EmailString
Foreign Key CustomerID references Customer(CustomerID)

Airline (AirlineCode, AirlineName)
Primary Key AirlineCode

Payment (PaymentID, PaidAmount, Balance, CustomerID, BookingID)
Primary Key PaymentID
Foreign Key CustomerID references Customer(CustomerID)
Foreign Key BookingID references Booking(BookingID)
Derived Balance = (Booking.TotalPrice – PaidAmount)

FlightAvailability (FlightNumber, DepartureDateTime, ArrivalDateTime, TotalBusinessSeatsAvailable, TotalEconomySeatsAvailable, TotalBusinessSeatsConfirmed, TotalEconomySeatsConfirmed, OriginAirportCode, DestinationAirportCode)
Primary Key FlightNumber, DepartureDateTime, ArrivalDateTime
Foreign Key OriginAirportCode references Airport(AirportCode)
Foreign Key DestinationAirportCode references Airport(AirportCode)
Foreign Key FlightNumber references Flight(FlightNumber)

StatusIndicator (StatusID, Status)
Primary Key StatusID

Booking (BookingID, FlightPrice, BookingDate, TotalPrice, FlightNumber, DepartureDateTime, ArrivalDateTime, CustomerID, PaymentID, ClassID, StatusID, BookingOffficeID)
Primary Key BookingID
Foreign Key FlightNumber, DepartureDateTime, ArrivalDateTime references FlightAvailability(FlightNumber, DepartureDateTime, ArrivalDateTime)
Foreign Key CustomerID references Customer(CustomerID)
Foreign Key PaymentID references Payment(PaymentID)
Foreign Key ClassID references Class(ClassID)
Foreign Key StatusID references Status(StatusID)
Foreign Key BookingOfficeID references BookingOffice(BookingOfficeID)
Derived TotalPrice = (Airport.TaxinOrigin + Airport.TaxinDestination + FlightPrice)

ClassIndicator (ClassID, Class)
Primary Key ClassID

Customer (CustomerID, First, Last, Country, Province, City, Street, PostalCode)
Primary Key CustomerID

BookingOffice(BookingOfficeID)
Primary Key BookingOfficeID

PhoneNumber (CustomerID, LocalNumber, CountryCode, AreaCode)
Primary Key CustomerID, LocalNumber
Foreign Key CustomerID references Customer(CustomerID)

Currency(CurrencyID, CurrencyName, CountryID)
Primary Key CurrencyID
ForeignKey CountryID references Country(CountryID)

City (CityID, CityName, CountryID, AirportCode, BookingOfficeID) Primary Key CityID Foreign Key CountryID references Country(CountryID) Foreign Key AirportCode references Airport(AirportCode) Foreign Key BookingOfficeID references BookingOffice(BookingOfficeID)	**Airport (AirportCode, AirportName, Tax)** Primary Key AirportCode
Country (CountryID, CountryName, AirlineCode) Primary Key CountryID Foreign Key AirlineCode references Airline(AirlineCode)	**Exchange (FromCurrency, ToCurrency, ExchangeDate, ExchangeRate)** Primary Key FromCurrency, ToCurrency, ExchangeDate Foreign Key FromCurrency references Currency(CurrencyID) Foreign Key ToCurrency references Currency(CurrencyID)