IT 314 Lab 4 Class Diagrams
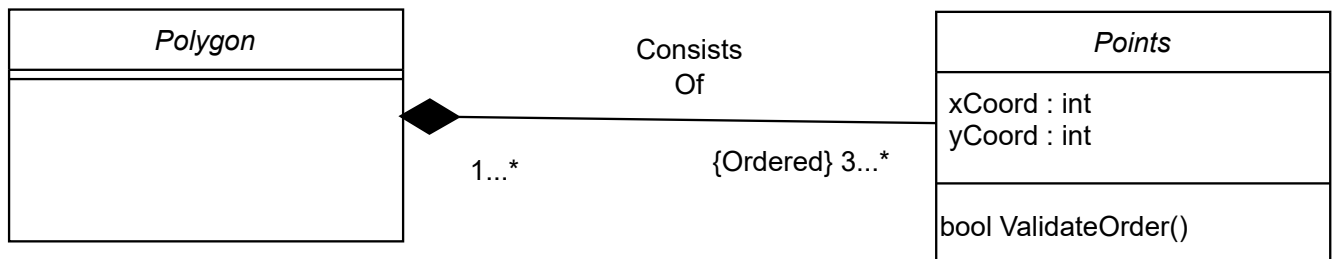
Name : Desai Aditya Veeral   Student ID - 202201451
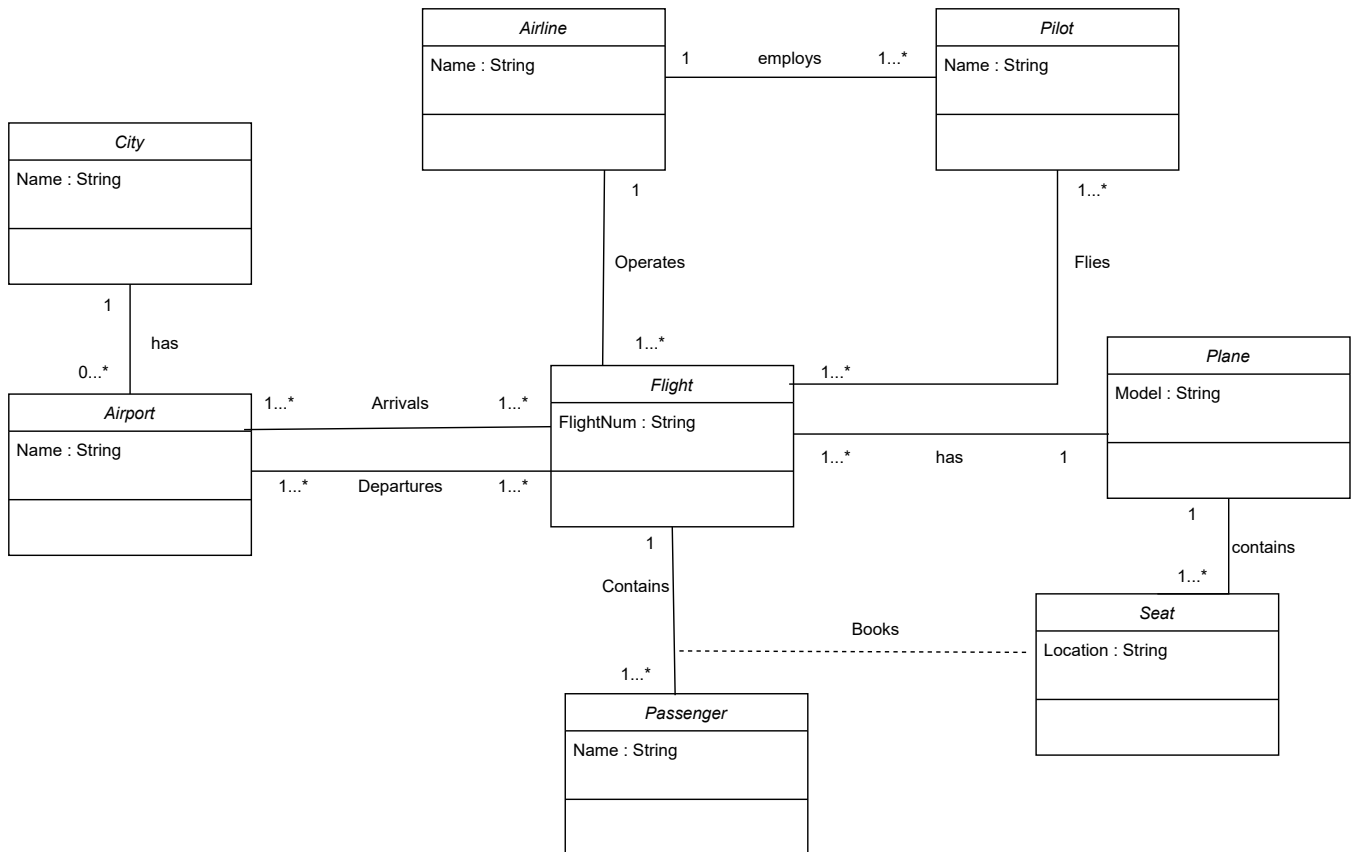
Question 1

Is bordering

Country
Name : String
bool CheckBorders()

1 ... *

Borders

with   1 ... *

Question 2

Polygon

Consists
Of

1...*   {Ordered} 3...*

Points
xCoord : int
yCoord : int
bool ValidateOrder()
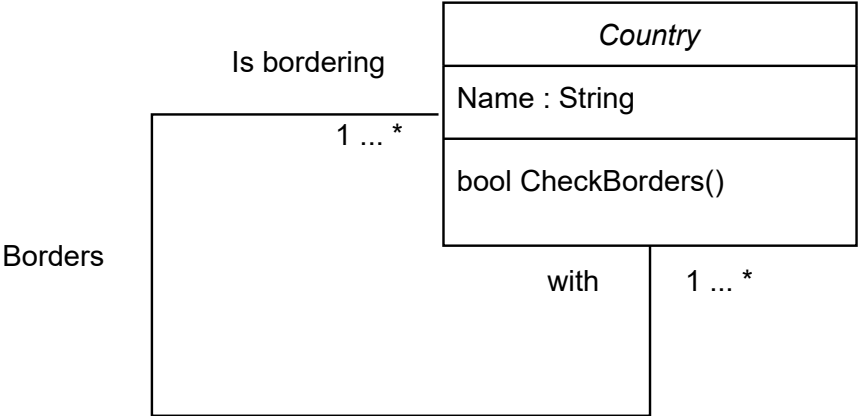
- The Polygon with the smallest number of sides is a triangle requiring 3 points
- As minimum 3 points are required, the multiplicity on the points side is 3 to many.
- One point can be shared between more than one polygons.
- A point can be shared between multiple polygons but each polygon still requires 3 polygons only.
- The ordering of points is important and also if the ordering is changed the shape of the polygon might turn out different or edges may intersect.

Question 3

City
Name : String

Airline
Name : String

Pilot
Name : String

Airport
Name : String

Flight
FlightNum : String

Plane
Model : String

Seat
Location : String

Passenger
Name : String

Airline 1 — employs — 1...* Pilot

City 1 — has — 0...* Airport

Airline 1 — Operates — 1...* Flight

Pilot 1...* — Flies — 1...* Flight

Airport 1...* — Arrivals — 1...* Flight

Airport 1...* — Departures — 1...* Flight

Flight 1...* — has — 1 Plane

Flight 1 — Contains — 1...* Passenger

Plane 1 — contains — 1...* Seat

Passenger — Books — Seat

Question 4

Airline

ID : String

Flight

ID : String
Arrival_Time
Departure_Time

Airport

Identifier : String

Operates 1...*

Depart 1...* 1...*

Arrives 1...* 1...*

Owns

1

1...*

AirCraft

Name : String
Working Status : String
Flying Status : String

Employs

has

1

1

Flown by

2... *

1...*

1... *

Pilot

Name : String

Navigator

Co Pilot

1...*

1...*

1... *

has type

1

1...*

Aircraft Type

Name : String

1...*

Captain 1

1...*

1..*

Pilot_L_3

Pilot_L_2

Pilot_L_1