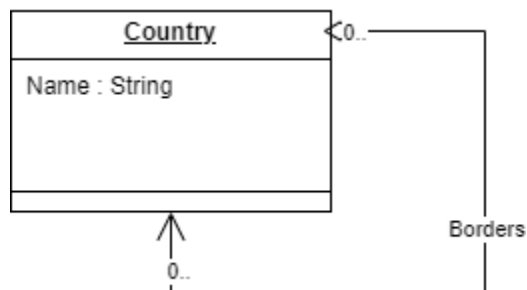


**IT - 314**  
**LAB 4**  
**Class Modeling**

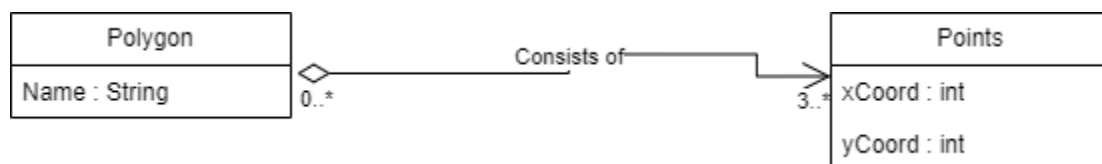
**Name : Meet Mahaliya**  
**ID : 202201204**

**Q.1 Prepare a class diagram for the following object diagram that shows a portion of Europe.**



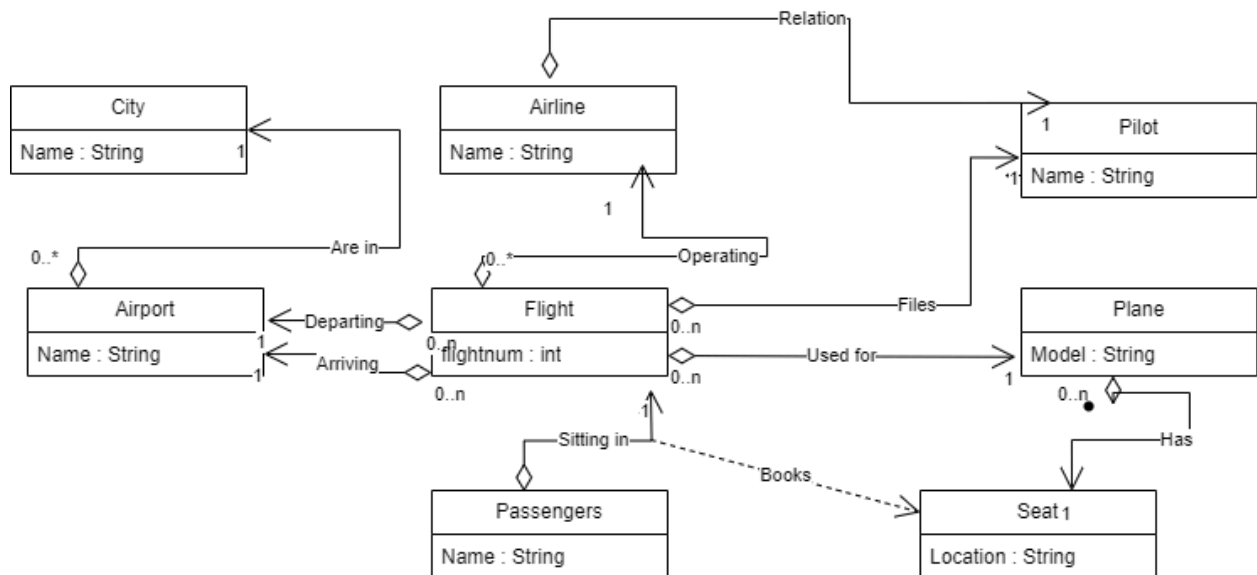
**Q.2 Prepare a class diagram for object diagram given in Figure -2. Explain your multiplicity decisions.**

**What is the smallest number of points required to construct a polygon? Does it make a difference whether or not point may be shared between polygons? Your answer should address the fact that points are ordered.**



**Q.3 Figure 3 is a partially completed class diagram of an air transportation system. Add multiplicities**

in the diagram. Also add association names to unlevelled associations.



**Q.4 We want to model a system for management of flights and pilots. An airline operates flights. Each airline has an ID. Each flight has an ID a departure airport and an arrival airport: an airport as a unique identifier. Each flight has a pilot and a co-pilot, and it uses an aircraft of a certain type; a flight has also a departure time and an arrival time. An airline owns a set of aircrafts of different types. An aircraft can be in a working state or it can be under repair. In a particular moment an aircraft can be landed or airborne. A company has a set of pilots: each pilot has an experience level: 1 is minimum, 3 is maximum. A type of aeroplane may need a particular number of pilots, with a different role (e.g.:**

captain, co-pilot, navigator): there must be at least one captain and one co-pilot, and a captain must have a level 3.

