Ensure that if a Client has an age less than 18, they must have a guardianName.

```
context Client
inv GuardianRequiredForMinor:
   self.age < 18 implies not self.guardianName.isEmpty()
```

A Client can book multiple Lessons, but the same Lesson cannot be booked more than once by the same Client.

```
context Client
inv UniqueLessonBooking:
   self.bookings->isUnique(booking | booking.lesson)
```

Ensure that an Instructor can only register for a Lesson if the Lesson's specializationCode matches the Instructor's specializationCode.

```
context Instructor
inv MatchingSpecializationForLesson:
   self.registeredLessons->forAll(lesson | lesson.specializationCode =
self.specializationCode)
```

A Lesson cannot have more bookings than its groupSize allows.

```
context Lesson

inv BookingLimit:

   self.bookings->size() <= self.groupSize
```

Ensure that an Instructor can only register for Lessons offered in cities listed in their cityAvailabilities.

```
context Instructor

inv LessonInAvailableCity:

   self.registeredLessons->forAll(lesson |
lesson.location.cityCode.oclIsIn(self.cityAvailabilities))
```

Ensure that each Lesson has a valid TimeSlot, where endTime is after startTime.

```
context TimeSlot

inv ValidTimeSlot:

    self.endTime > self.startTime
```

Offerings are unique. Multiple offerings on the same day and time slot must be offered at a different location.

```
context Offering

inv UniqueOfferingPerLocation:

    Offering.allInstances()->forAll(o1, o2 |

        o1 <> o2 implies

        (o1.timeSlot <> o2.timeSlot or o1.location <> o2.location)

    )
```

The city associated with an offering must be one of the cities the instructor has indicated in their availabilities.

```
context Instructor

inv CityInAvailability:

    self.registeredLessons->forAll(lesson |

        lesson.location.cityCode.oclIsIn(self.cityAvailabilities)

    )
```

A client does not have multiple bookings on the same day and time slot.

```
context Client

inv NoDuplicateBookings:

    self.bookings->forAll(b1, b2 |

        b1 <> b2 implies

        (b1.lesson.timeSlot <> b2.lesson.timeSlot)
```

)