

1. “A given location can only accommodate one lesson at any given time slot on a given day.”

context Location

inv: self.schedule \rightarrow forAll(s1, s2 | s1 \neq s2 implies
(s1.timeslot.day \neq s2.timeslot.day
or s1.timeslot.startTime \neq s2.timeslot.startTime))

2. “The same type of lesson can be offered in both modes (private, group)”

context Location

inv: self.offerings \rightarrow forAll(o1, o2 | (o1 \neq o2 and o1.lesson = o2.lesson) implies
(o1.ocllsTypeOf(private) \neq o2.ocllsTypeOf(Private)))

3. “All offerings are made available to potential instructors, but only those that have been taken by instructors are made available to the public”

context Offering

Inv: self.available = true implies self.status = ‘taken’

4. “The public can view the organization’s available offerings. However, in order to make a booking, one must first become a client”

context Booking::createBooking(account: Account, offering: Offering)

pre:

account.ocllsTypeOf(Client)

5. “For someone who is underage (i.e. less than 18 yrs old), they would need an adult who will be acting as their legal guardian who can handle their bookings.”

context Client

inv: self.age < 18 implies self.guardian \rightarrow notEmpty()

context Booking::createBooking(client: Client, guardian: Guardian, offering: Offering)

pre:

client.age \geq 18 or (client.age < 18 and client.guardian = guardian)