

OCL Expressions

1. "Offerings are unique. In other words, multiple offerings on the same day and time slot must be offered at a different location."

context Offering

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inv: self.offering  $\rightarrow$  forAll (o1, o2: Offering | o1 <> o2 implies
                                o1.time <> o2.time
                                or
                                o1.location <> o2.location
                                or
                                o1.city <> o2.city)

```

2. "Any client who is underage must necessarily be accompanied by an adult who acts as their guardian."

context Client

inv: self.dateOfBirth → validateDOB() [validates age is 18 or over]

context Guardian

inv: self.dateOfBirth → validateDOB() [validates age is 18 or over]

context Minor

inv: self.guardianId <> null

3. “The city associated with an offering must be one the city’s that the instructor has indicated in their availabilities.”

context Offering

inv: self.instructor_id → getInstructorCities() → **includes** (self.city)

4. “A client does not have multiple bookings on the same day and time slot.” (for simplicity we consider only identical day and time slots, even though in reality a booking on Monday 3pm – 4pm and another also on Monday 3:30pm – 4:30pm should not be acceptable.)

context Client

inv: self.ClientBooking → forAll (b1, b2: ClientBooking | cb1 <> cb2 **implies**

cb1.offeringId.time <> cb2.offeringId.time)

context Minor

inv: self.MinorBooking → **forAll** (b1, b2: MinorBooking | mb1 <> mb2 **implies**

mb1.offeringId.time <> mb2.offeringId.time)