

Object Constraint Language (OCL) expressions

1. Offerings are unique

context Offering

inv UniqueOffering:

```
Offering.allInstances()->forall(o1, o2 |  
  o1 <> o2 implies (o1.schedule.day <> o2.schedule.day or  
    o1.schedule.timeSlot <> o2.schedule.timeSlot or  
    o1.location <> o2.location))
```

2. Underage clients must have a guardian

context Client

inv UnderageMustHaveGuardian:

```
self.age < 18 implies self.guardian->notEmpty()
```

3. City of offering must match instructor's availability

context Offering

inv CityInInstructorAvailability:

```
self.instructor.availableCities->includes(self.location.city)
```

4. No overlapping bookings for the same client

context Client

inv NoOverlappingBookings:

```
self.bookings->forall(b1, b2 |  
  b1 <> b2 implies (b1.offering.schedule.day <> b2.offering.schedule.day or  
    b1.offering.schedule.timeSlot <> b2.offering.schedule.timeSlot))
```