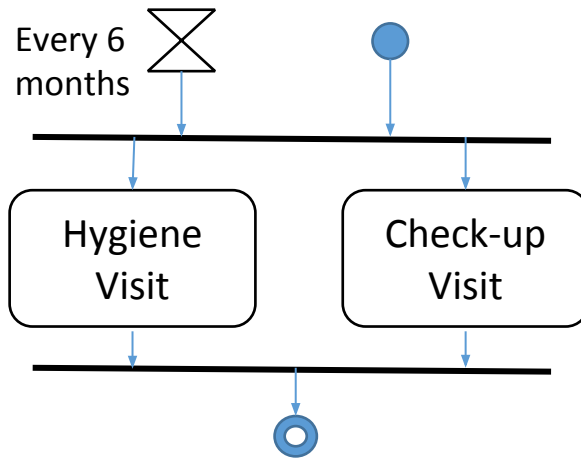
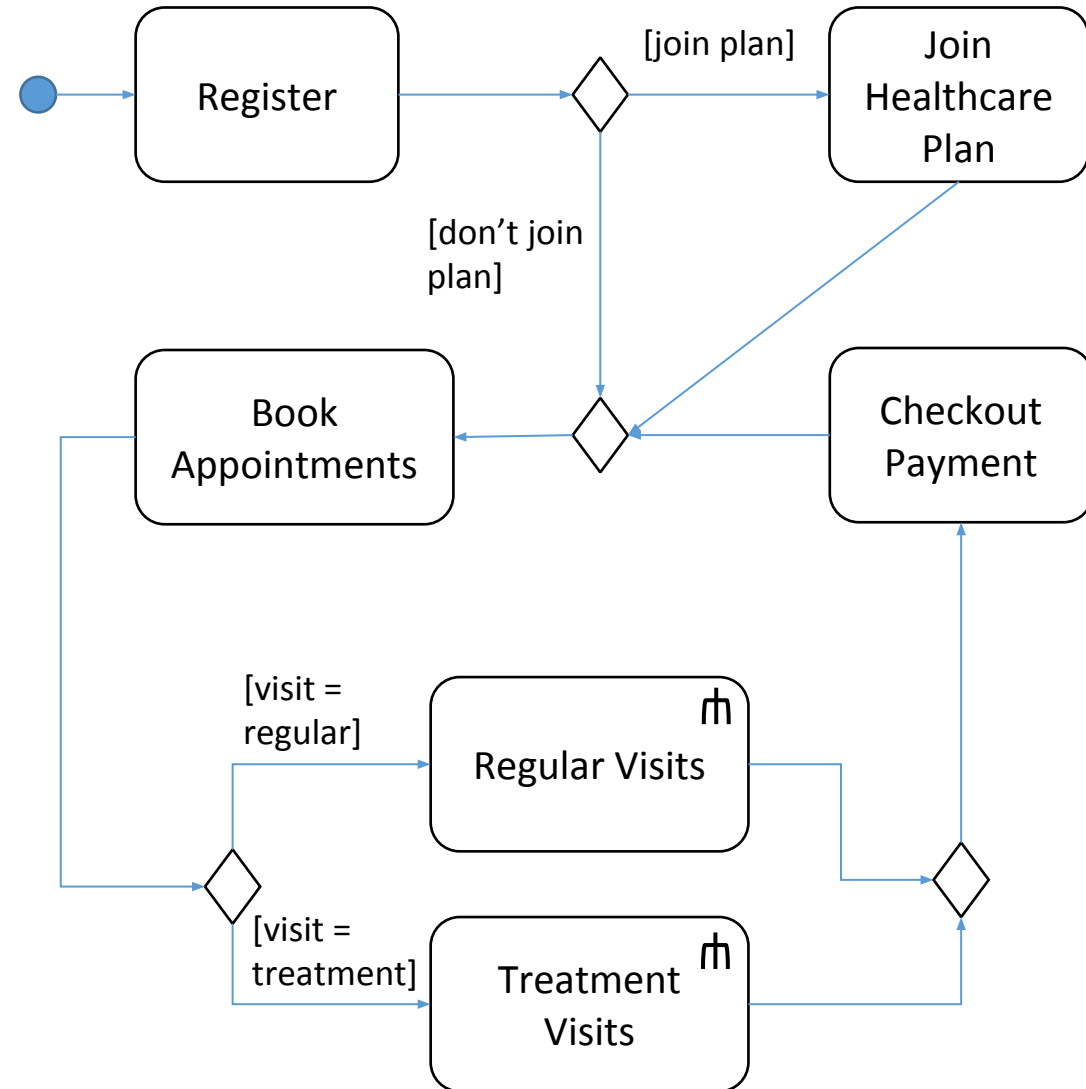
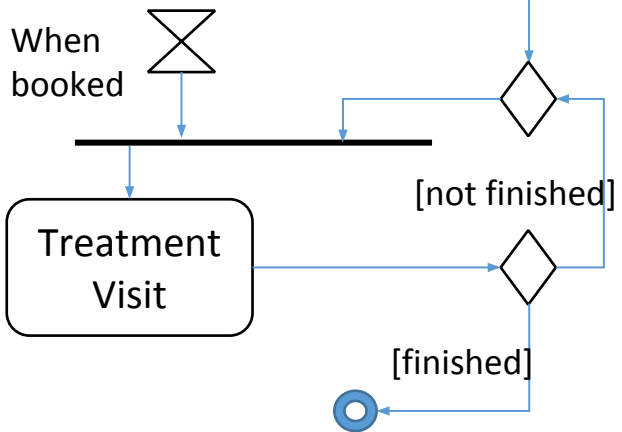
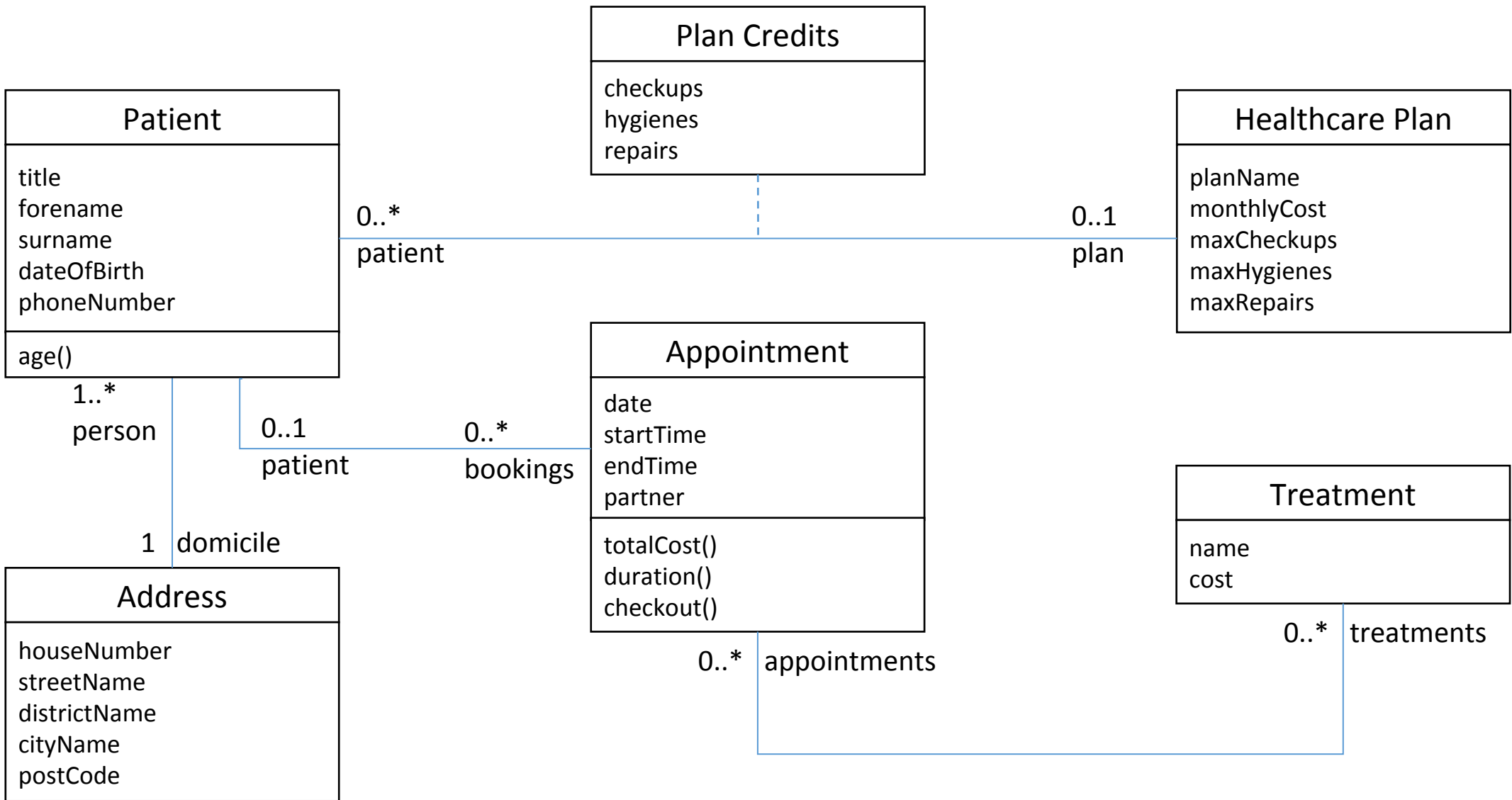


### Regular Visits



### Treatment Visits





context Patient inv:

self.age < 18 implies (self.plan.planName = NHSFreePlan  
and self.plan.monthlyCharge = 0)

context Appointment::duration() : Time inv:

result = self.endTime – self.startTime

context Appointment::totalCost() : Money inv:

result = self.treatments.cost->sum()

context Appointment::Appointment(start, end : Time)

pre: start >= 09:00 and end <= 17:00

context Appointment inv:

Appointment.allInstances->forAll(a, b : Appointment |  
a <> b implies (a.startTime > b.endTime  
or b.startTime > a.endTime))

context Appointment::checkout post:

let credit = self.patient.planCredits in

credit.checkups = ([credit.checkups@pre](#) –  
treatments->select(name = “checkup”)->size()).max(0) and  
credit.hygienes = ([credit.hygiene@pre](#) –  
treatments->select(name = “hygiene”)->size()).max(0) and  
credit.repairs = ([credit.repairs@pre](#) –  
treatments->select(name = “repair”)->size()).max(0)

