

## Exercici 7 IES: Escola de ball

**context: Sistema::CrearParella (nom1: String, nom2: String): Parella**

**pre:** nom1 != nom2  
and Persona.allInstances() -> exists(p1 | p1.nom = nom1)  
and Persona.allInstances() -> exists(p2 | p2.nom = nom2)

**post:** Parella.allInstances() -> select (par | par.Persona.nom = nom1  
and par.Persona.nom = nom2)

**context: Sistema::CrearActivitat (nomR: String, data: Data, par: Parella):**

**pre:** Recinte.allInstances() -> exists (e | e.nom = nomR)  
and Data.allInstances() -> exists (d | d.data = data)

**post:** Activitat.allInstances() -> exists (a | a.ocllsNew()  
and a.Recinte.nom = nomR  
and a.Data.data = data and result = a  
and a.ocllsType(Concurs).Parella = par  
and a.ocllsType(Concurs).ParellaParticipant.dorsal = dor  
and a.Concurs.Parella))

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**context: Sistema::SeleccionarConcurs (nomR: String, data: Data): Concurs**

**pre:** Recinte.allInstances() -> exists (r | r.nom = nomR)  
and Data.allInstances() -> exists (d | d.data = data)

**post:** Activitat.allInstances() -> select (a | a.Recinte.nom = nomR  
and a.Data.data = data  
and a.ocllsType(Concurs))

**context: Sistema:: EnregistrarGuanyadors(nom1: String, nom2: String, dorsal: Natural, act: Activitat):**

**pre:** Persona.allInstances() -> exists (p1 | p1.nom = nom1)  
and Persona.allInstances() -> exists (p2 | p2.nom = nom2)  
and ParellaParticipant.allInstances() -> exists (p | p.dorsal = dorsal)

**post:** ParellaGuanyadora.allInstances() -> exists (p | p.ocllsNew()  
and p.ParellaParticipant.dorsal = dorsal  
and p.ParellaParticipant.Concurs.Activitat = act)

**context: Sistema::ConsultarConcursos (nomR: String):** Set (TupleType (data: Date, participants: Integer))

**body:** let contests: set(Activitat) =  
 Activitat.allInstances() -> select (a | a.ocllsType(Concurs)  
 and a.Activatat.Recinte.nom = nomR)  
 and a.Concurs.size() > 50  
 and (Activitat.allInstances() -> exists (a1 | a1.Data.data = a.Data.data and  
 a1.Exhibició.size() = 0 )))  
  
 in contests -> collect(a | Tuple {data = a.data, participants = a.Concurs.size()})