1. **List the equipment ids and descriptions for equipment that is currently in use.**

π equipment\_id, equipment\_type(σ is\_available = TRUE (equipment))

1. **Find names of all employees in ARC.**

π name (person⨝ employee)

1. **Retrieve the names of all members who have attended an event in the yoga studio.**

π name (person ⨝ person.card\_id =member..person\_id member ⨝ (σ description = 'yoga studio' (space ⨝ events ⨝ attends)))

1. **Find all family members who have attended ‘Summer Splash Fest’.**

π name ((person) ⨝ person.card\_id = family.person\_id(family) ⨝ attends ⨝ (σ description = 'Summer Splash Fest' (events)))

1. **Find members who visit only those spaces in ARC that houses all the types of equipment that they have used (at some stage).**

ρall\_spacesπ space\_id(space) *-- all spaces at ARC*

ρall\_equipmentsπ equipment\_type(equipment) *-- all equipment types at ARC*

ρspace\_not\_equipment(all\_spaces X all\_equipments - πspace\_id, equipment\_type(equipment))

*-- space, equipment type pairs where space does not have that particular equipment*

ρspace\_\_memberπ space,card\_id(space\_not\_equipment ⨝ usage\_reading)

*-- space, member combination where space does not equipment which person has used*

π person\_id(location\_reading) - πcard\_id(πspace\_id, person\_id(location\_reading)^space\_member)

*-- removing people who have visited spaces which do not have equipments which person has used*

**ρ**

**ρ**