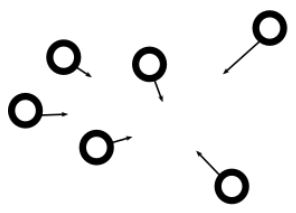
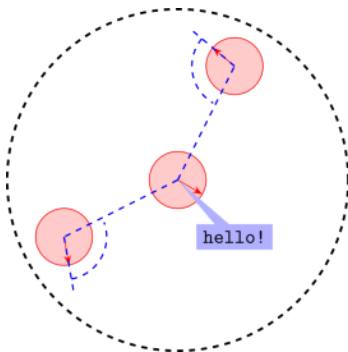


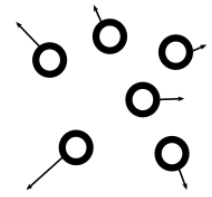
## Part 2: Arm swarm behavior

Within 'aimrantw/icra24\_tutorial:init\_robots\_tutorial' docker:

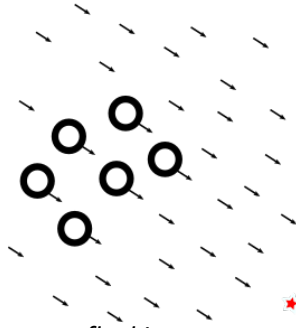
- source dingo\_exploration\_ws/devel/setup.bash
- roslaunch dingo\_buzz gen3\_lite\_swarm\_<real/sim>.launch
- roslaunch dingo\_buzz pybuzz.launch
- cd dingo\_exploration\_ws/src/pybuzz/buzz\_scripts/
- gedit tutorial.bzz



agregation



dispersion



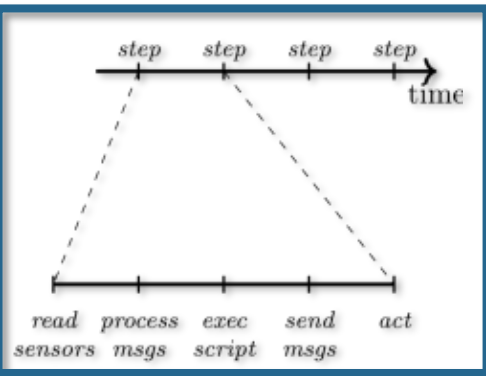
flocking

# Iteration (rid is the neighbor's id)

```
neighbors.foreach( function(rid, data) {
    log("robot ", rid, ": ", "distance = ", data.distance, ", ",
    "azimuth = ", data.azimuth, ", ", "elevation = ", data.elevation) })
```

# Reduction (accum is a table)

```
# with values x, y, and z, initialized to 0
result = cart.reduce(function(rid, data, accum) {
    accum.x = accum.x + data.x
    accum.y = accum.y + data.y
    accum.z = accum.z + data.z
    return accum }, {x=0, .y=0, .z=0})
```



```
# Creates a new vector2 cartesian or polar
new_vec = math.vec2.new(x, y)
new_vec = math.vec2.newp(lenght, angle)
# Creates a new vector3 cartesian or polar
new_vec = math.vec3.new(x, y, z)
new_vec = math.vec3.newp(lenght, azimuth, elevation)
```

