

# Environment

Phase 1

## environment

### Compute

- States
- Rewards
- stop condition

### Apply

- Actions
- Initialization setting
- setting

### Step

- Read externals
- Kinematics
- Read collisions
- Draw map
- termination
- Compute

### Agent

{ States  
Trace points

{ displacement functions  
Kinematics  
Follow wp

agents\_v1.py

### Map

#### Map setting

{ Interactive functions  
Obstacle generation  
Detect collisions  
Draw map elements

#### Proximity sensor

env\_engine\_v1.py

env\_v1.py

(Map size, Obstacles, agent coor., goal)

(trajectory)

## PSO

Fix x

Random (x, y)

PSO

## DRL

Actor-critic model

Policy

Training

a2c\_test\_v1.py

(states, rewards, actions)

(action)