

## **class Genome**

### **Representation**

- genome itself - BitArray of fixed size
- bad genes number threshold (global)
- mutation rate M (global)

### **Operations**

- mutate
- set mutation rate (global)
- set bad genes threshold

### **Properties**

- get genome size
- get\_num\_bad\_genes up to n

### **Creating**

- default - all good (0)
- copy constructor(+optional mutation)

## **class Fish**

### **Representation**

- age
- genome
- reproduction age (global)

### **Operations**

- give birth
- ageing
- set reproduction age

### **Property**

- is dead?
- is pregnant?

### **Creating**

- default - age 0
- creation by copy

## **class Population**

### **Representation**

- a collection of fish
- max population size

### **Operations**

- remove a fish
- insert new fish
- sweep through the collection

### **Properties**

- current num of fishes

### **Creating**

- create a population with given num of fishes