***Practice: 01.10.2018***
***Dmitry Savashchuk***

**Basic data:**

Population: 100 chromosomes, each has 1000 gens.
Mutation: 0.1% to mutate gen.
Crossing over: Mutli points.
Start position: [500, 500].
Sausage position: [200, 800].

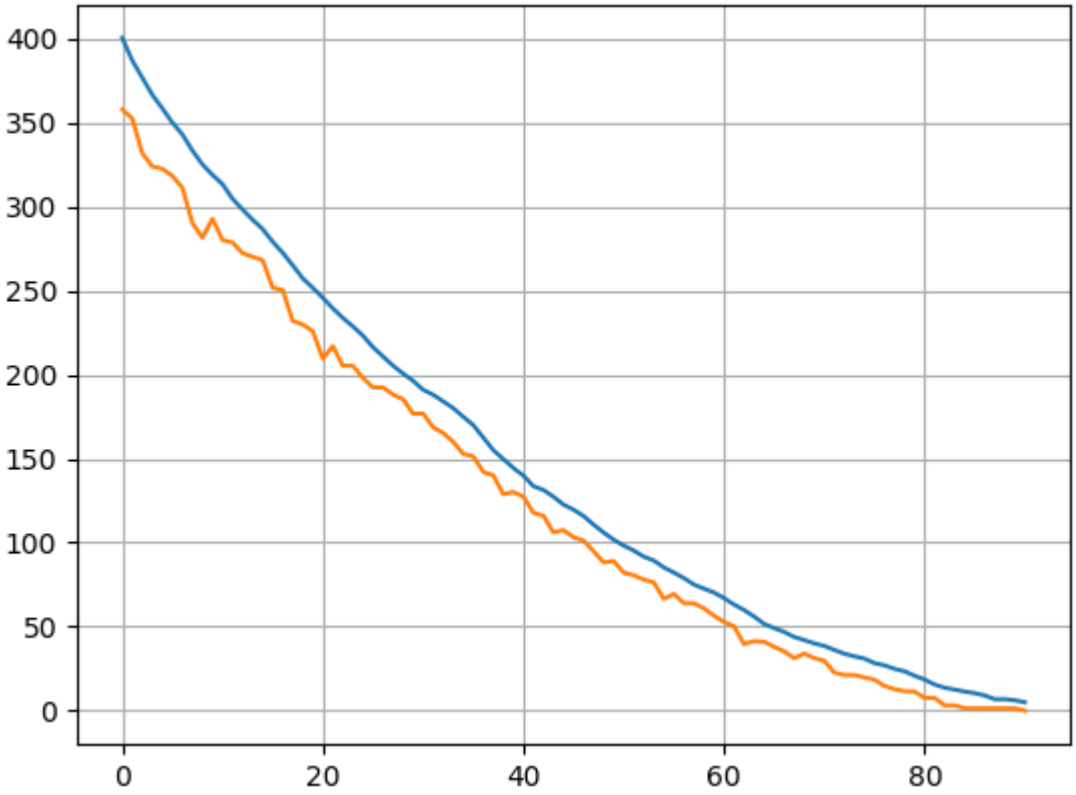
**Scenarios:**

1. Simplest root – without lake.
2. Hard root – with lake.

**First scenario:**

**Count of iterations: 91**

**Fitness:**




Lines:

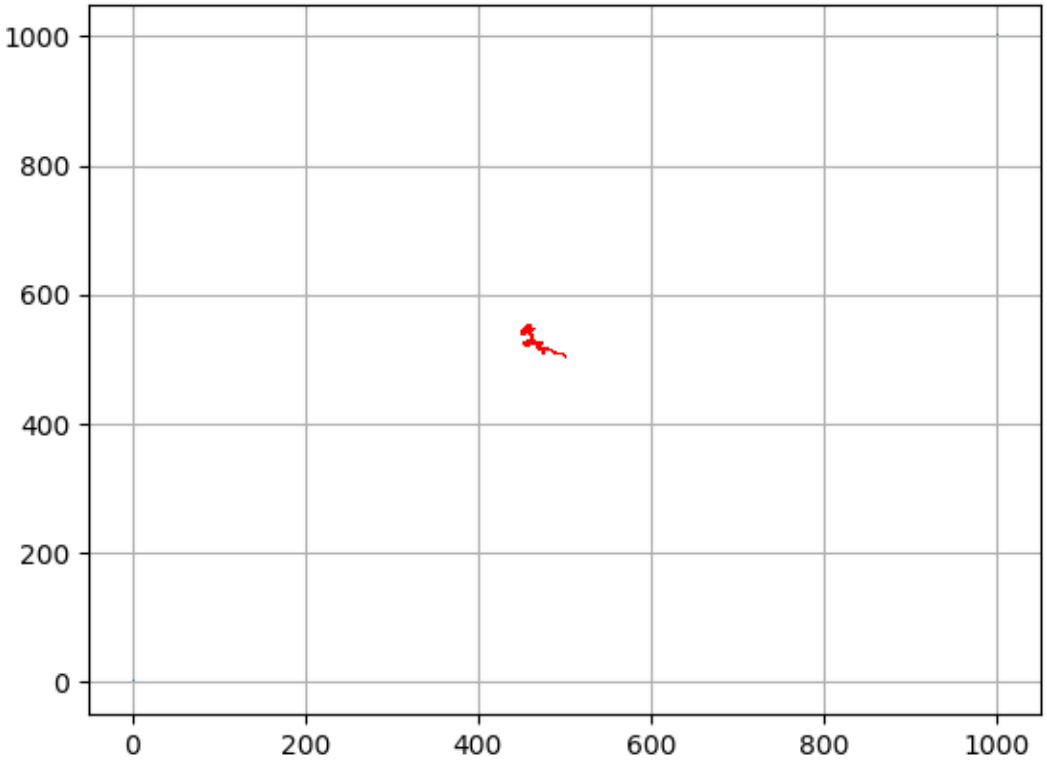
Blue line – mean fitness values in populations.
Orange line – the best (minimal) fitness values in populations.

**Dog’s roots in different populations:**

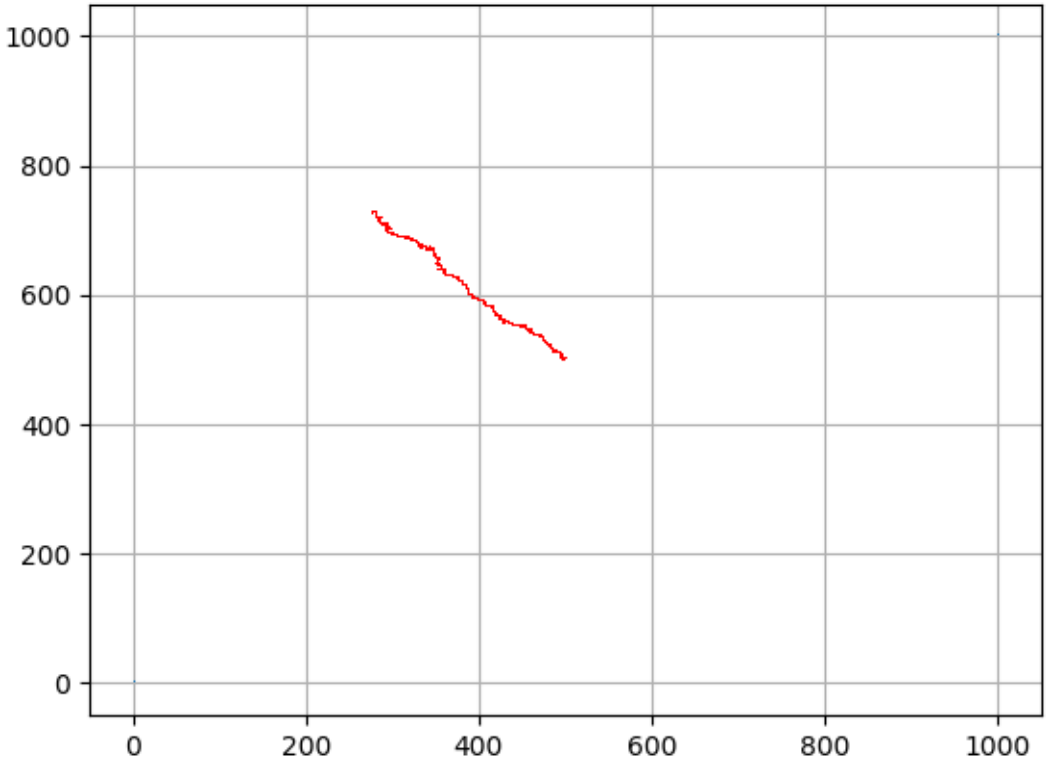
Red line – dog’s root.

**The best dog:**

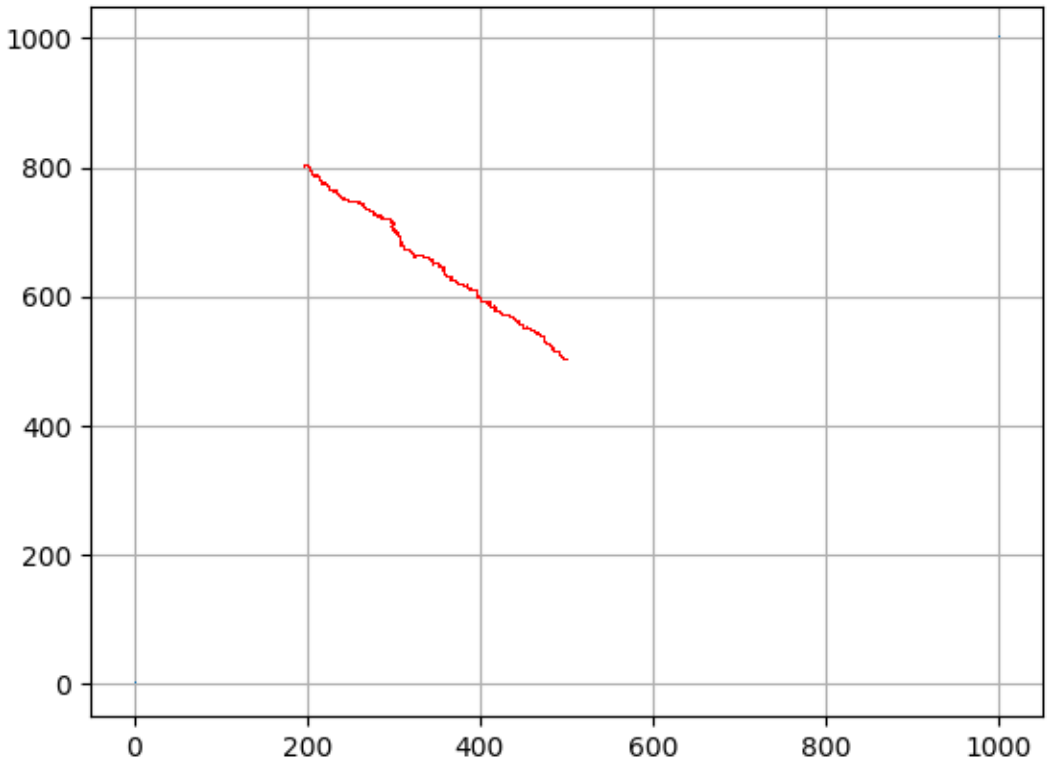
**Start:**




**Intermediate:**

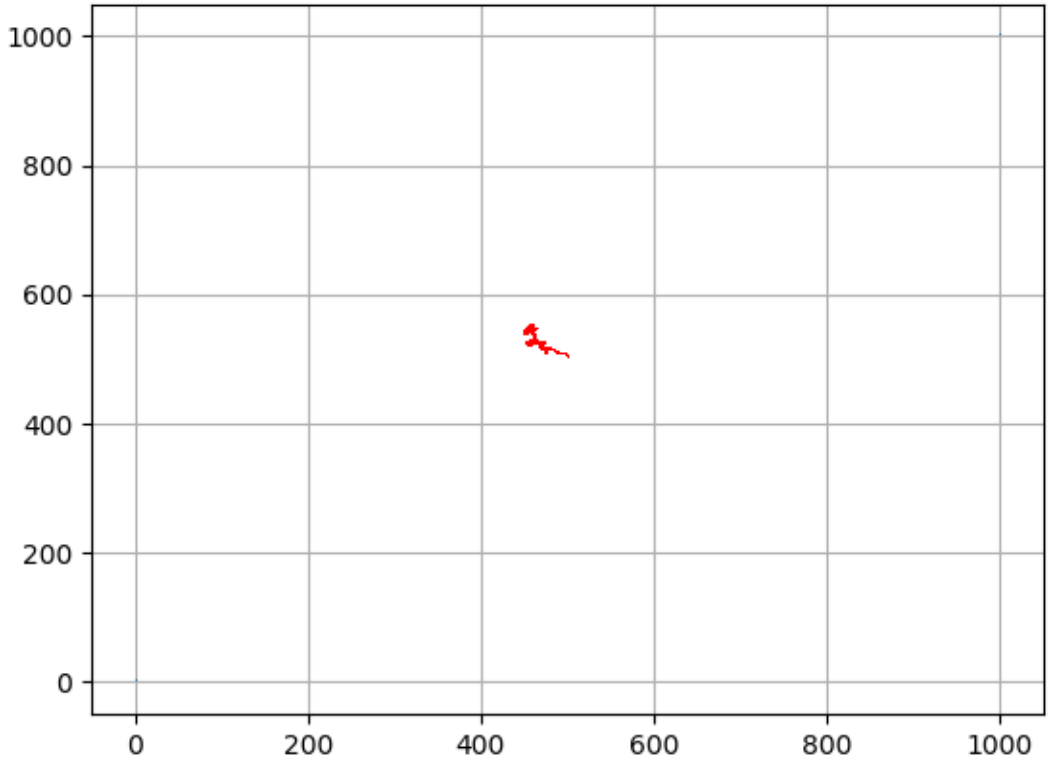


**Final:**

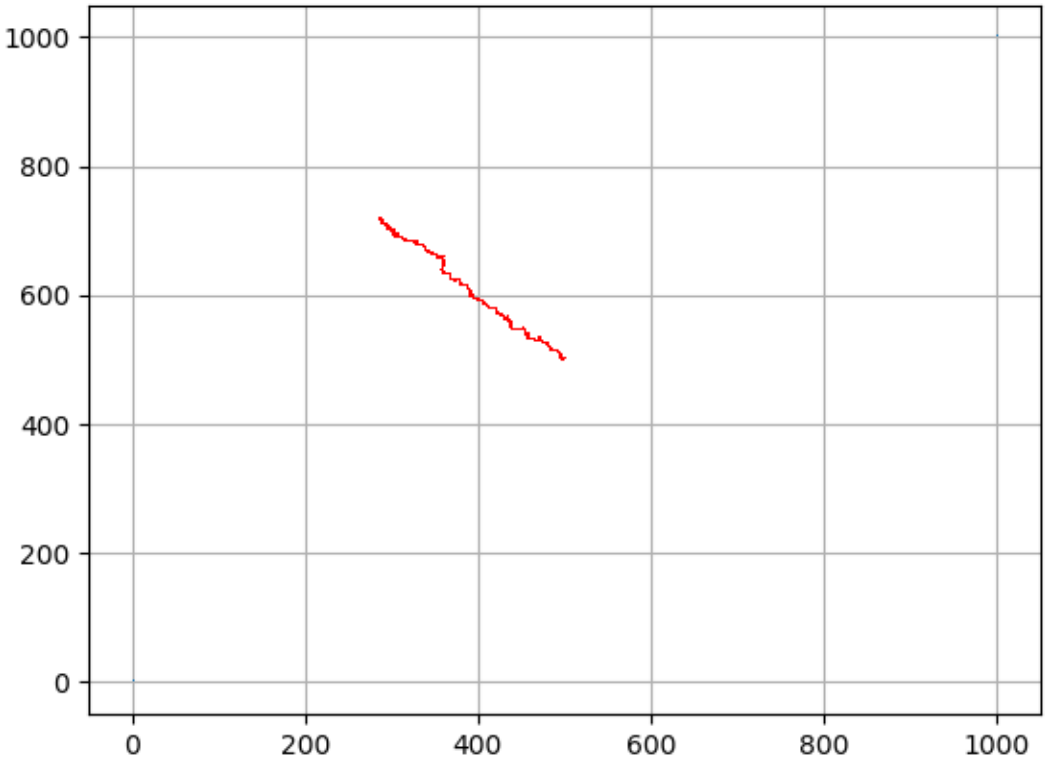



**The worst dog:**

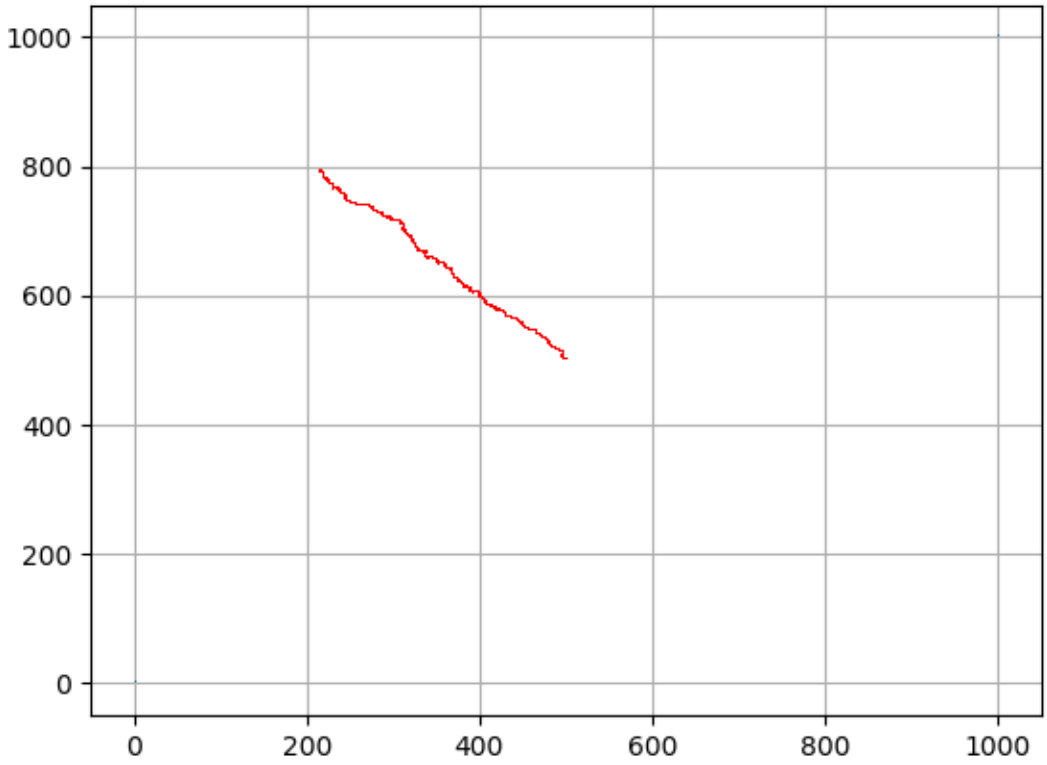
**Start:**



**Intermediate:**



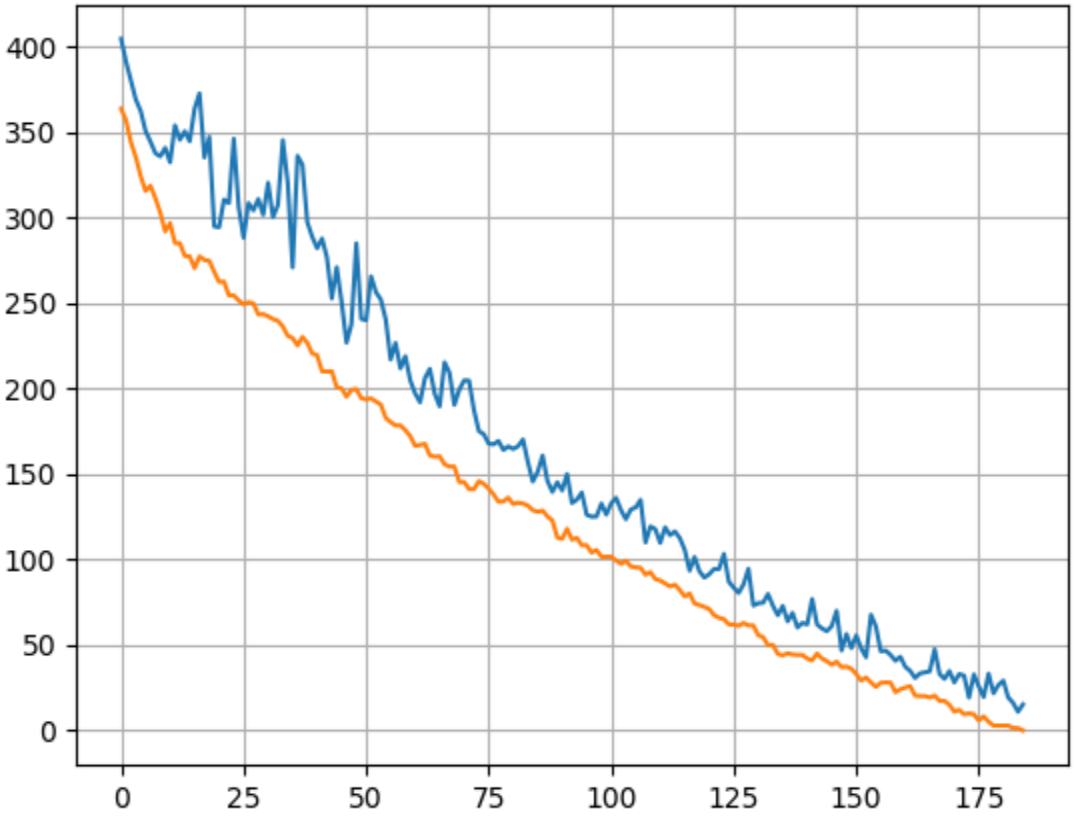

**Final:**



**Second scenario:**

**Count of iterations: 185**

**Fitness:**




Lines:

Blue line – mean fitness values in populations.

Orange line – the best (minimal) fitness values in populations.

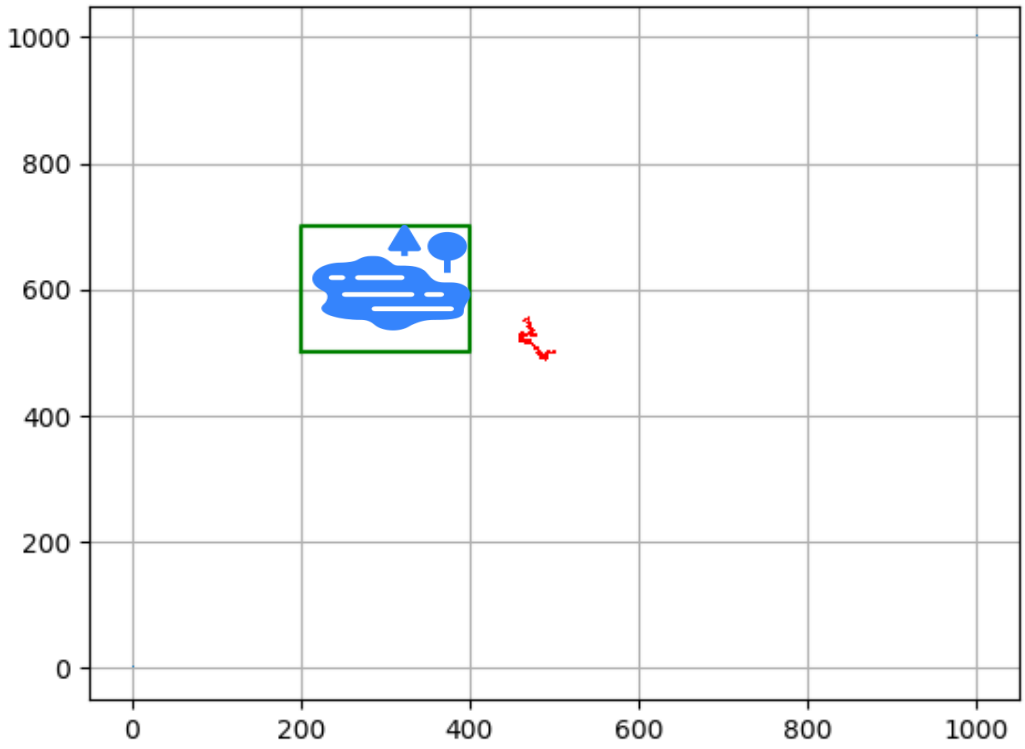
**Dog's roots in different populations:**

Red line – dog's root.

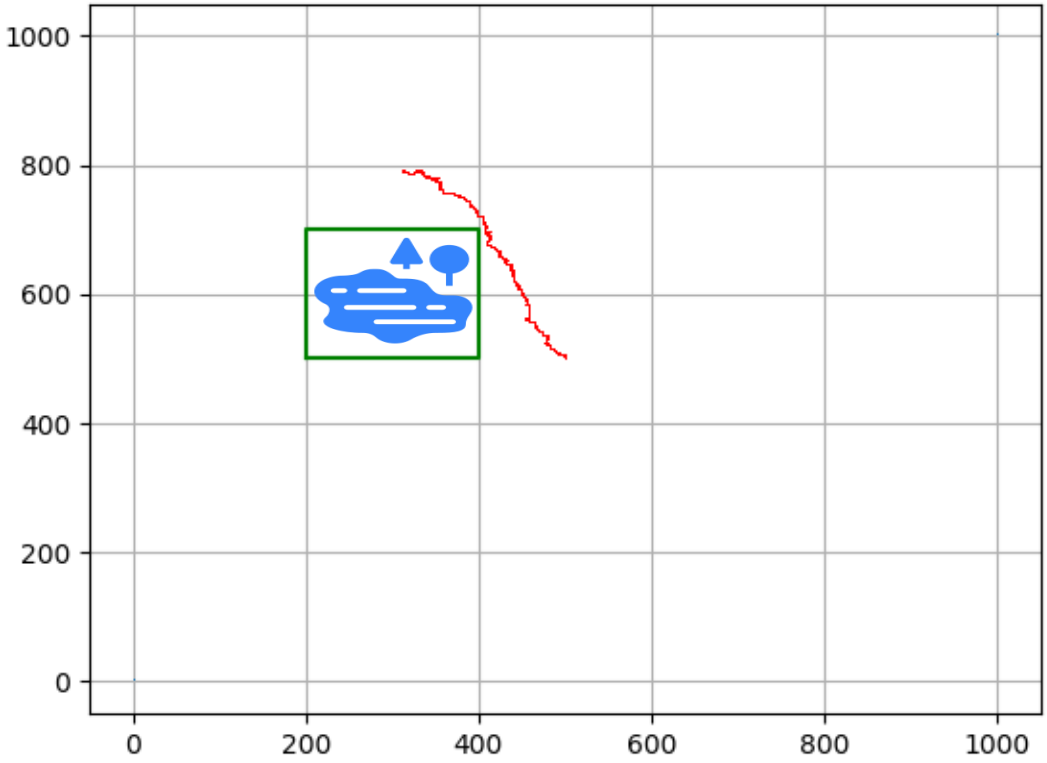
Green lines – lake's borders.

**The best dog:**

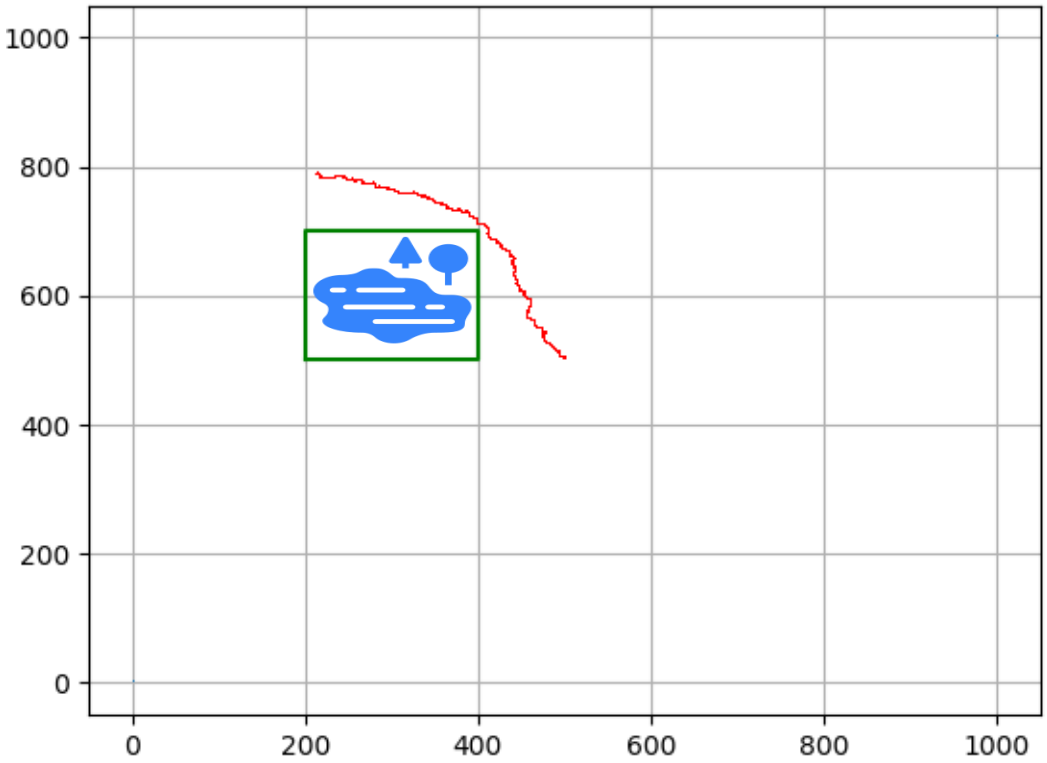
**Start:**




**Intermediate:**

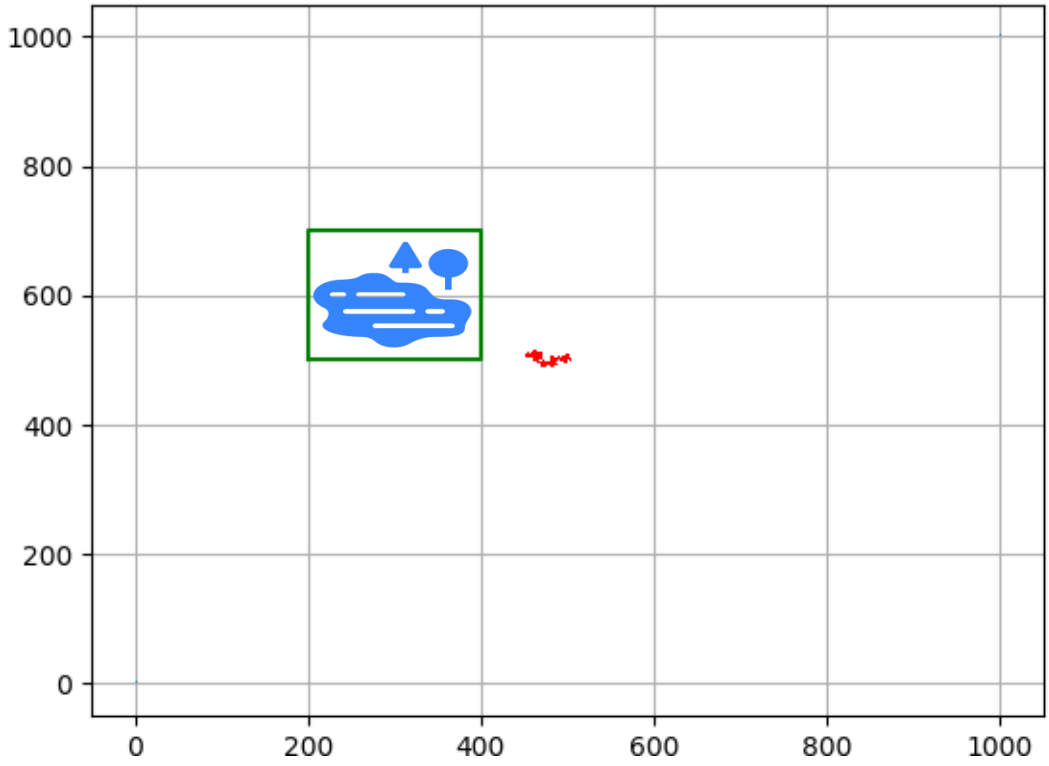


**Final:**

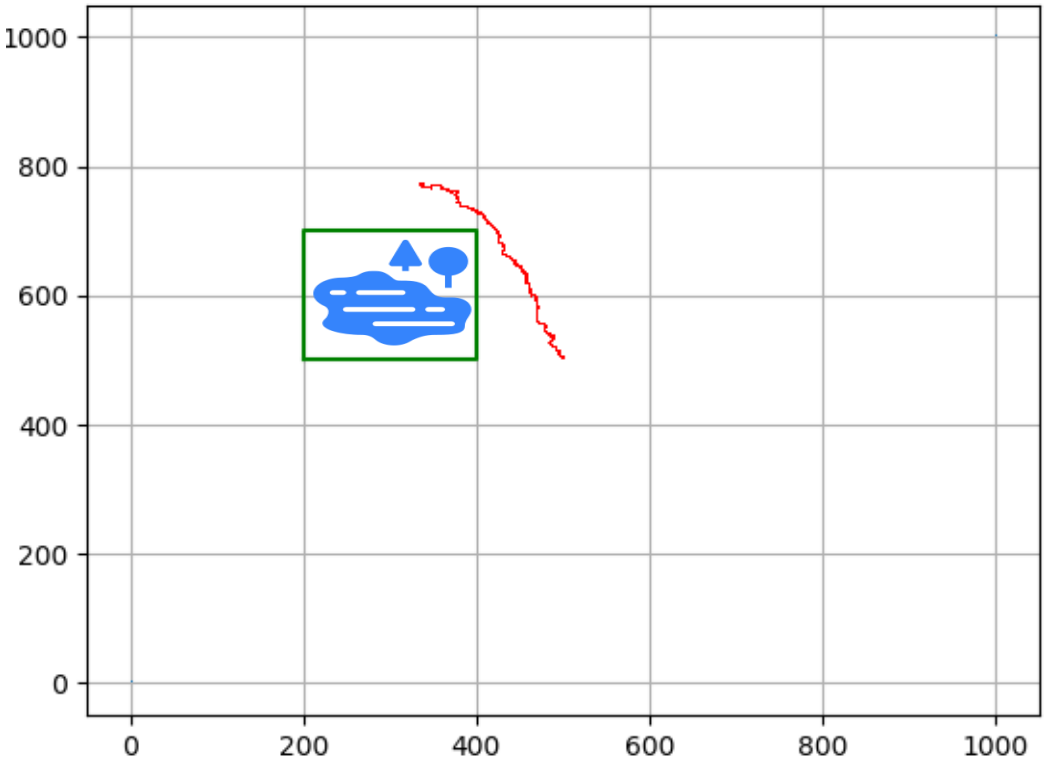



**The worst dog:**

**Start:**



**Intermediate:**




**Final:**