

Ecosystem

```

- allSpecies: vector<Species>
- numberSpecies: int
- numberIndependentSpecies: int
- numberPredatorPrey: int

+ Ecosystem()
+ getNumberSpecies(): int const
+ getNumberIndependentSpecies(): int const
+ getNumberPredatorPrey(): int const
+ addSpecies(species: Species & const): void
+ addIndependentSpecies(independentSpecies: IndependentSpecies & const): void
+ addPredatorPrey(predatorPrey: PredatorPrey & const): void
    
```

Species

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- size: double
- name: string
- pAlleleFrequency: double

+ Species()
+ Species(name: string, size: double, pAlleleFrequency: double)
+ Species(const Species & species)
+ getName(): string const
+ setName(name: string): void
+ getSize(): double const
+ setSize(size: double): void
+ getpAlleleFrequency(): double const
+ setpAlleleFrequency(pAlleleFrequency: double): void
+ findHomozygousDominant(): double const
+ findHeterozygous(): double const
+ findHomozygousRecessive(): double const
+ findPercentDominant(): double const
+ findNumberDominant(): double const
+ findPercentRecessive(): double const
+ findNumberRecessive(): double const
+ equilibrium(dominant: double, heterozygous: double, recessive: double): bool
+ getqAlleleFrequency(): double const
    
```

IndependentSpecies

PredatorPrey