Model
  CubicFit
    computeFitness()
    1
  LangFit
    computeFitness()
    2
Individual
  mutate()
    3
  procreate()
    use self and Individual& mate to perform crossover
    mutate() offspring created via crossover
    return Individual&
Evolution
  chooseParent()
    create three list iterators of Individual initialized to the first element of population vector
    initialize index number to random index of popSize
    move iterator to index
    re-randomize the index and repeat for the remaining two iterators
    perform tournament selection to choose 1 parent
  cull()
    set list iterator to beginning of population vector
    move iterator to the element at popSize
    erase all elements after the element at index popSize
  stopCriterion()
    if reached the max number of iterations, return true
    if ratio of the fitness of the best individual & the fitness of the worst individual = 1, return true
    else, return false
  Evolution()
    fill the population pool to popSize
    sort the population pool from lowest to highest fitness (lowest fitness being the best)
    if verbose
      display intermediate results:
       -number of iterations
       -the fitness of the best individual
       -the features of the best individual
       -the fitness of the worst individual
       -the features of the worst individual
    while the stop criterion has not been met:
      while offspring pool size < 10*popSize
          choose two parents from population via tournament selection

use two parents to make two children using procreate()
add the two children to the offspring pool
merge the offspring pool into the population pool
sort the new population pool from fittest to least fit
delete all but the fittest popSize individuals
increment the iteration counter
if verbose
display intermediate results

1 $$MSE = \frac{1}{x.size()} \sum_{i=1}^{x.size()} (yp - y[i])^2$$

2 $$f(x) = \sum_{i=1}^{5} c[i] \exp\left(-\frac{1}{\pi} \sum_{j=1}^{2} (x[j] - a[i][j])^2 \right) \cos\left(\pi \sum_{j=1}^{2} (x[j] - a[i][j])^2 \right)$$

3 $$x[i]^{Mut} = x[i] + s \cdot r \cdot a$$