### **Code structure for Part A**

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(Github repository link https://github.com/Eoghan243/CT421Project1)

#### 1.1 - Code structure

This script implements a genetic algorithm to solve a bin packing problem. It consists of functions for calculating fitness, performing crossover, applying mutation, and running the genetic algorithm. Input parameters include population size, chromosome length, bin capacity, generations, crossover rate, and mutation rate. The output is a plot showing the average fitness of the population at each generation.

#### 1.2 – Code structure

This script implements an evolutionary algorithm to optimize a binary string towards a target. It includes functions for generating individuals, calculating fitness, performing crossover, applying mutation, and running the evolutionary algorithm. Input parameters include the target string, population size, mutation rate, and generations. The output is a plot showing the fitness progress over generations.

# 1.3 – Code structure

This script implements a genetic algorithm to optimize a binary string towards a target. It contains functions for calculating fitness, performing crossover, applying mutation, and running the genetic algorithm. Input parameters include population size, chromosome length, generations, crossover rate, and mutation rate. The output is a plot displaying the fitness progress over generations.