For the first step, polynomial is being learned and solved manually. When it is done, polynomial can be understood and the program can be designed. After the structure of polynomial is learned, the input converter is designed and created.

Input from the user is a polynomial function in a string form, but for the calculation program needs to read the constant in numerics. So, the polynomial input has to be divided into the terms that consist of sign, constant, and exponents. Then, the terms is inputted into array of terms. After that, all the terms is being divided into array of constant that include the sign and array of exponents. Thereafter, this array of constant and array of exponents is being converted into numeric after the array is being sorted from biggest exponent to smallest exponent. After all the steps are done, the polynomial form is ready for calculation.

After the above process, program will enter the arrays into constant variables. Program will use the variables to evaluate the population. The population will substitute the x variable in polynomial equation.

For generating population in genetic algorithm, data is generated in decimal numbers. Then, those numbers will be converted to binary numbers for crossover process.

Program will loop the GA process until all the roots are found or the maximum generation is reached. After the GA process is done, Cartesian graph will be showed. This program will have Graphic User Interface (GUI) for ease of use.