1. Population Initialization:

- Generates a population of specified size with random values within given ranges for each variable.

2. Arithmetic Crossover:

- Combines two parent individuals using a crossover parameter to produce two children.

3. Gaussian Mutation:

- Mutates an individual's genes with a Gaussian distribution based on specified parameters and mutation probability.

4. Tournament Selection:

- Selects parents from a population based on fitness evaluations using tournament selection.

5. Fitness Function:

- Mentioned but not implemented; needs to be defined separately for fitness evaluation.

6. Example Usages:

- Demonstrates population initialization, crossover, mutation, and selection with example data.

7. Output:

- Displays results of population initialization, crossover, mutation, and selected parents for illustration.

The code provides essential functionalities for a genetic algorithm but requires a fitness function implementation for comprehensive use.