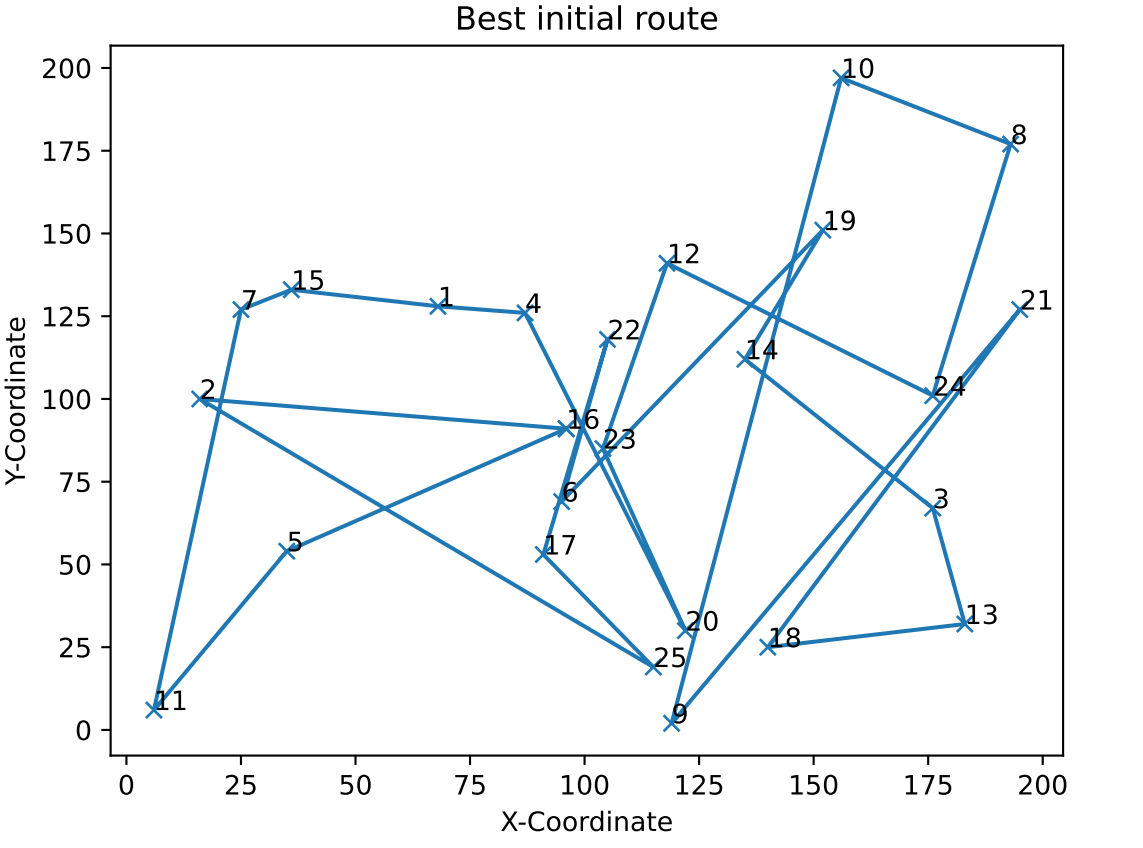
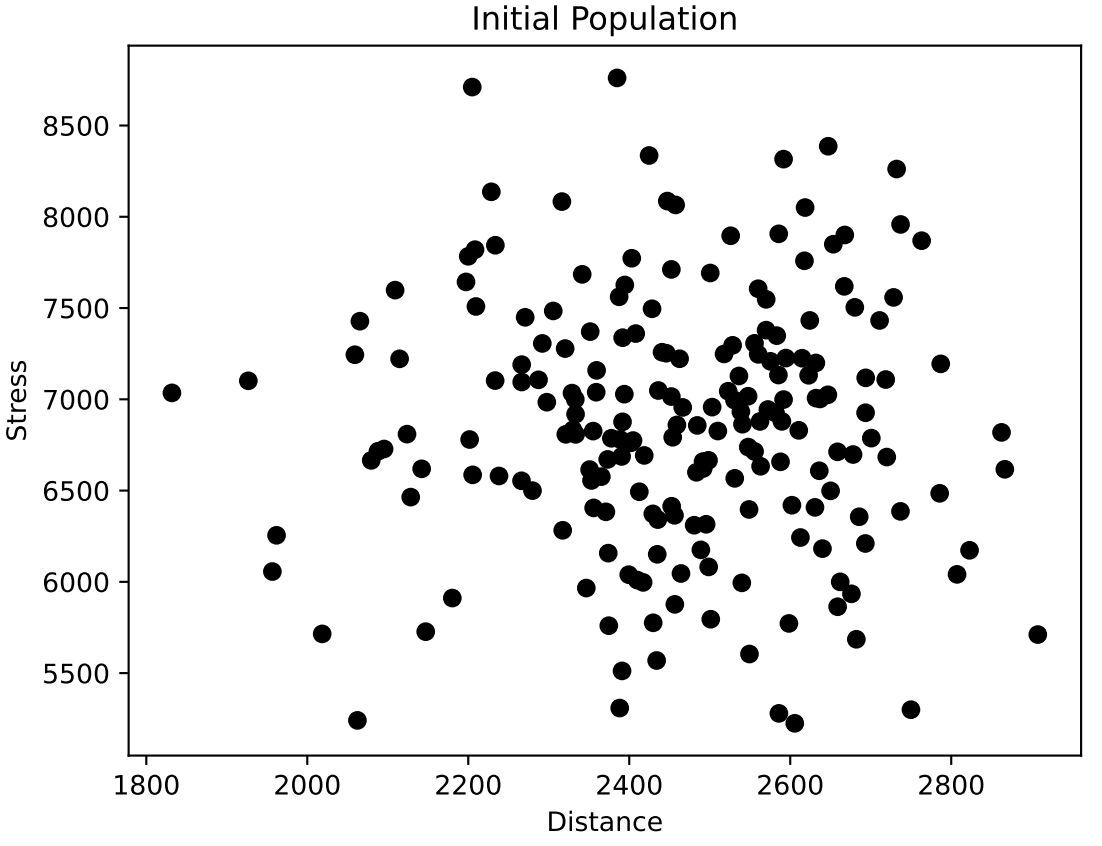
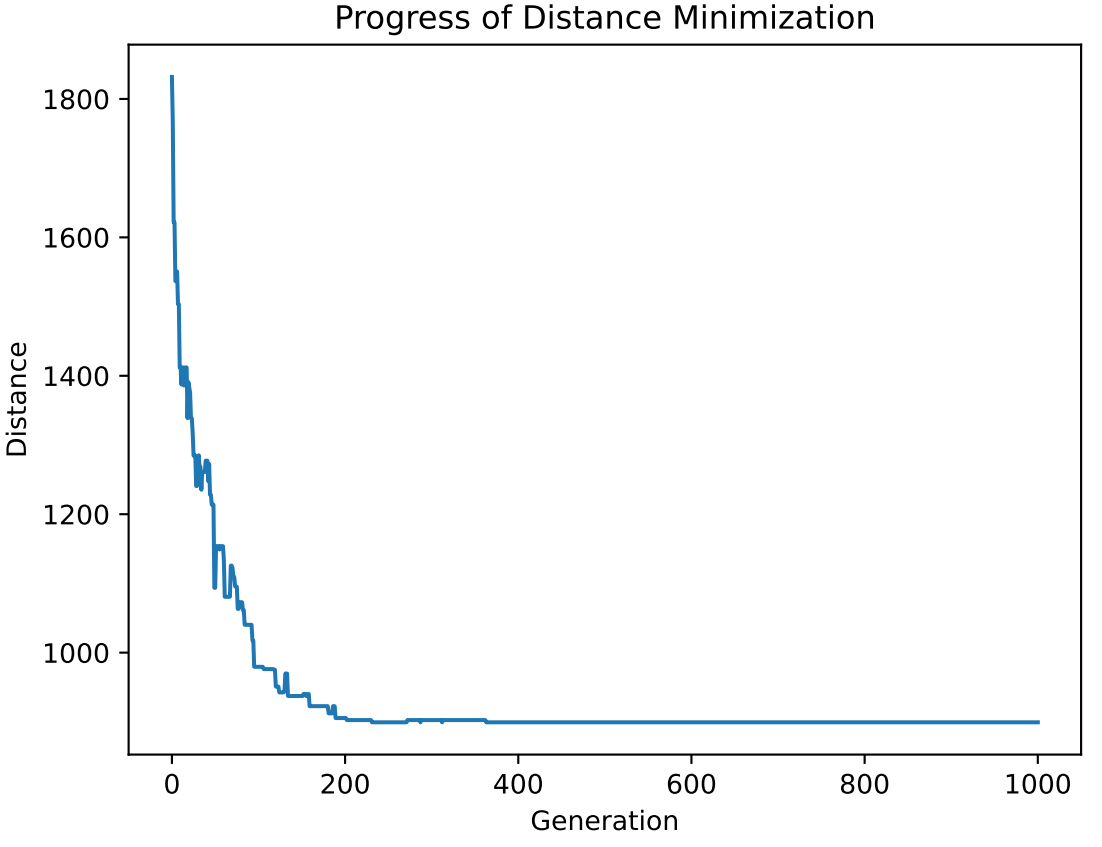
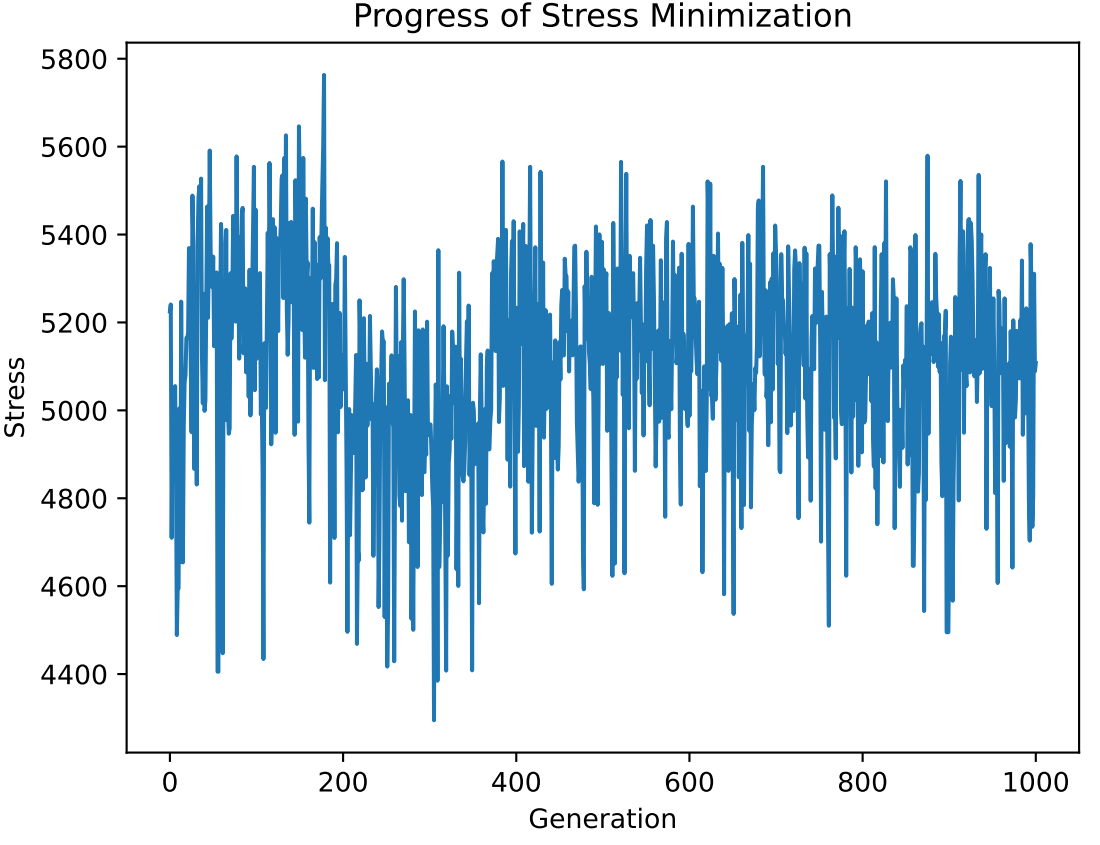
[1, 2, 3, 4, 5,
6, 7, 8, 9, 10,
11, 12, 13, 14, 15,
16, 17, 18, 19, 20,
21, 22, 23, 24, 25]

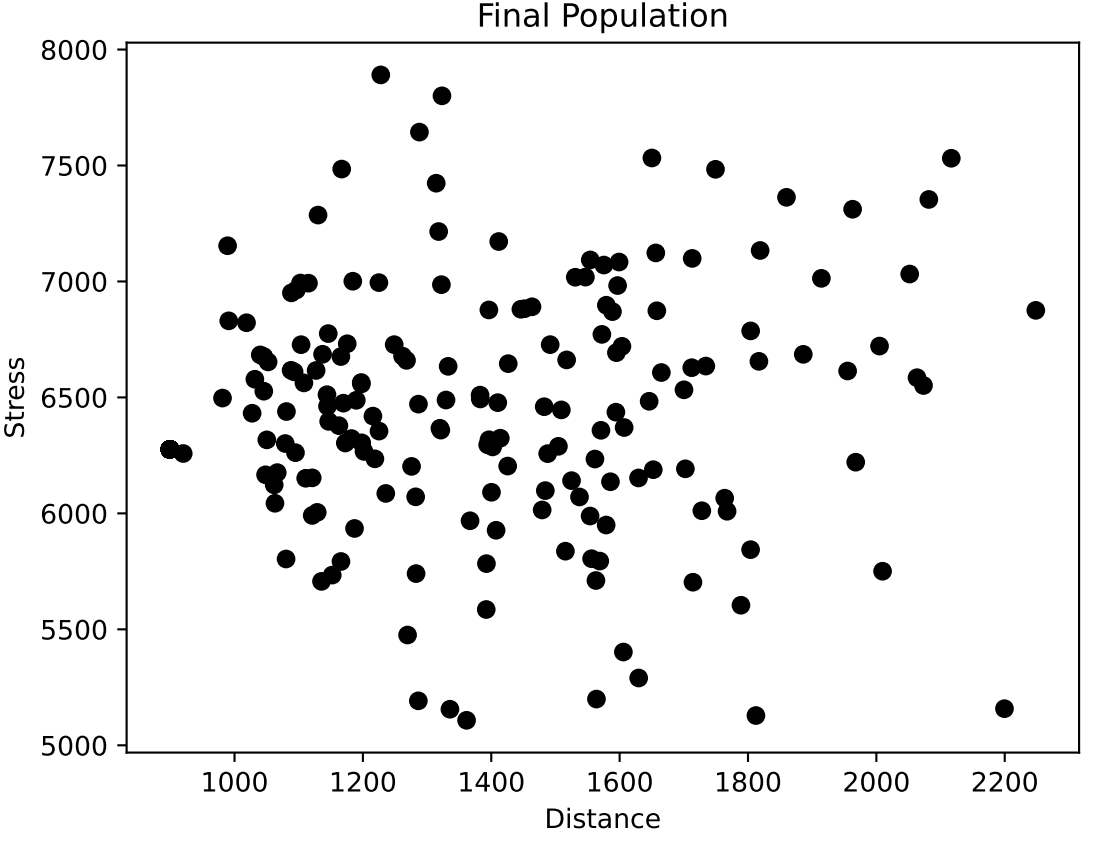

Best initial route
Y-Coordinate
X-Coordinate
0
25
50
75
100
125
150
175
200
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25


Initial Population
Stress
Distance
8500
8000
7500
7000
6500
6000
5500
1800
2000
2200
2400
2600
2800

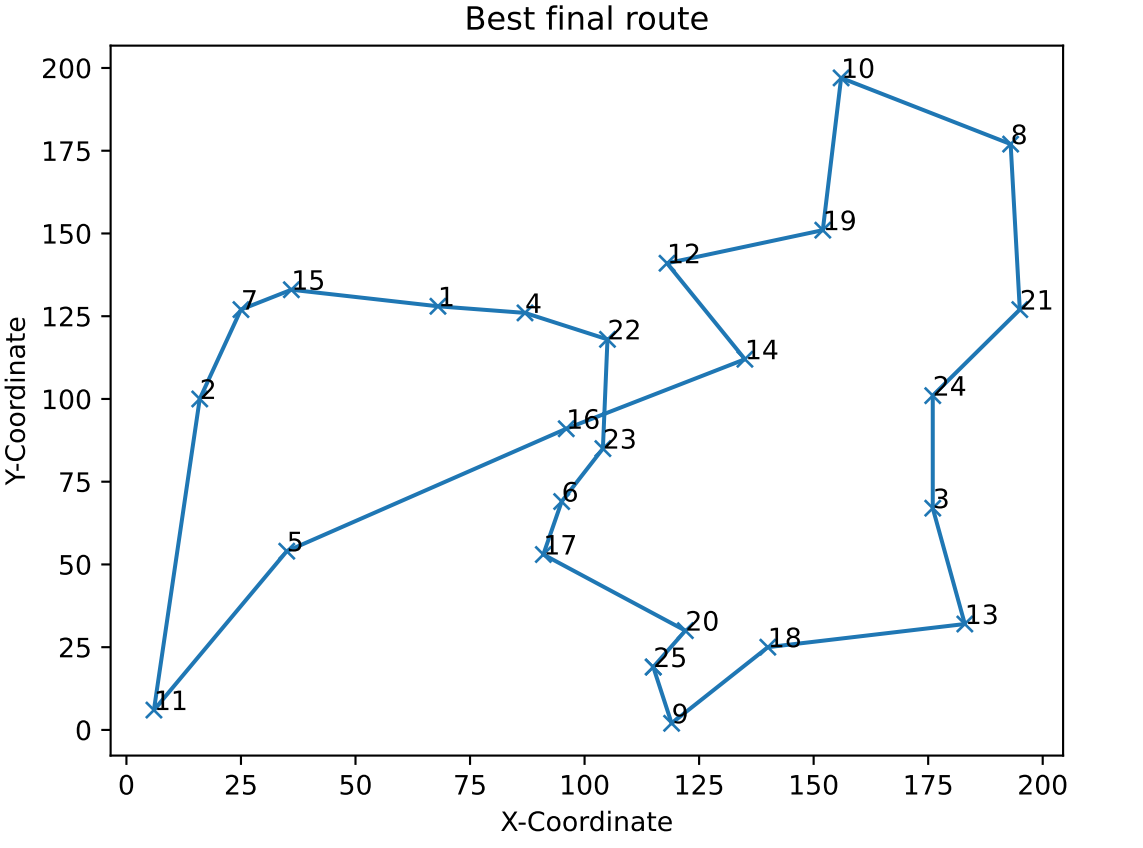

Progress of Distance Minimization
Distance
1800
1600
1400
1200
1000
0
200
400
600
800
1000
Generation


Progress of Stress Minimization
Stress
Generation
5800
5600
5400
5200
5000
4800
4600
4400
0
200
400
600
800
1000

Initial distance : 1831.834170348385
Initial stress: 7035.2
Initial objective: 1831.8341703483848
Final objective: 899.3342467245592
Final distance : 899.3342467245593
Final stress: 6276.2


Final Population
8000
7500
7000
6500
6000
5500
5000
Stress
1000
1200
1400
1600
1800
2000
2200
Distance

[25, 20, 17, 6, 23,
22, 4, 1, 15, 7,
2, 11, 5, 16, 14,
12, 19, 10, 8, 21,
24, 3, 13, 18, 9]


Best final route
Y-Coordinate
X-Coordinate
0
25
50
75
100
125
150
175
200
10
8
19
12
15
7
1
4
21
22
14
2
24
16
23
6
3
5
17
20
13
18
25
11
9