

ALNS outputs

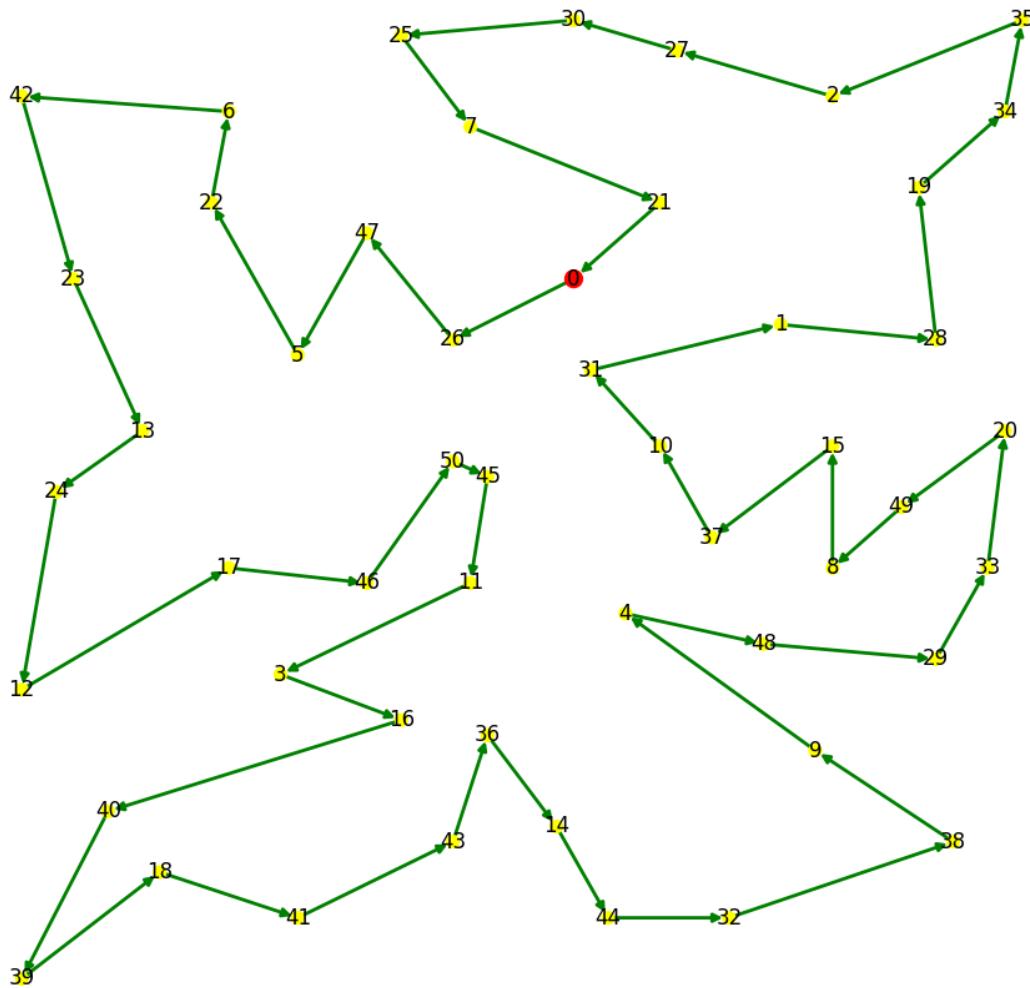
EIL51	1
EIL101	6
FI417	10
kroA100	14
kroA150	18
kroB100	21
kroC100	25
kroE100.tsp	29
Berlin52	32

EIL51

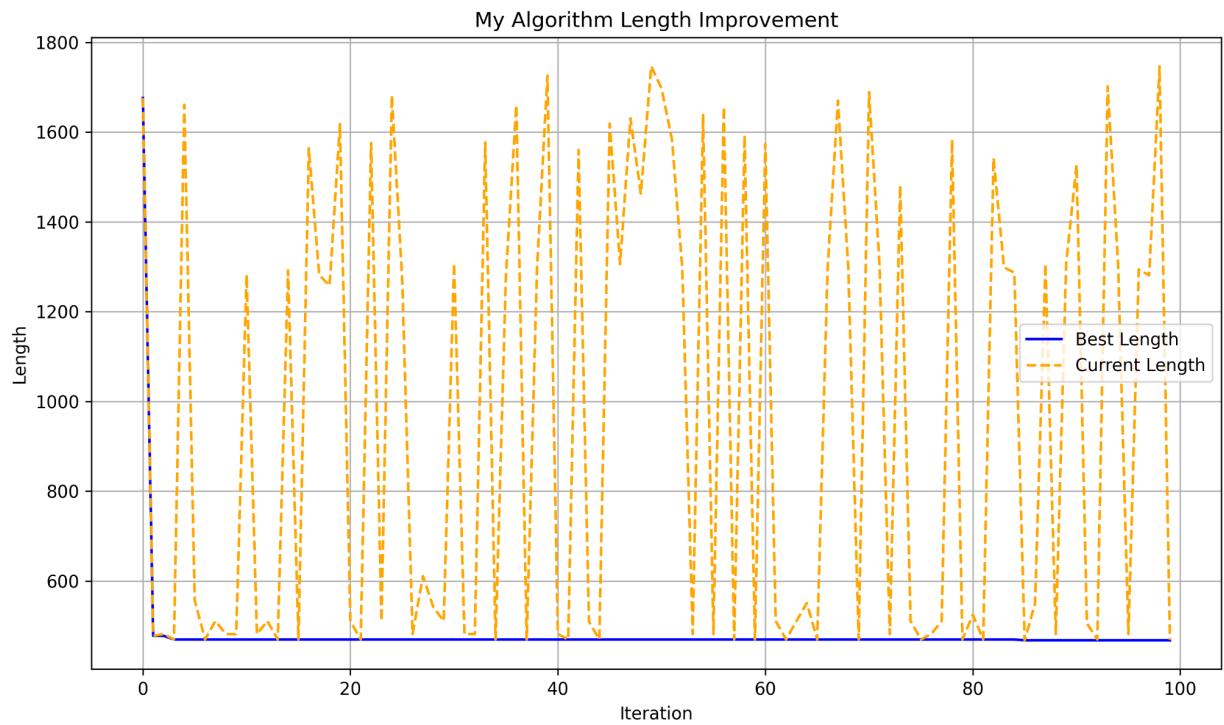
```
2023-12-11 14:12:56,386 - INFO - Iteration 100: Length of Tour = 469
2023-12-11 14:12:56,386 - INFO - Best Tour: = [0, 26, 47, 5, 22, 6, 42, 23, 13, 24,
12, 17, 46, 50, 45, 11, 3, 16, 40, 39, 18, 41, 43, 36, 14, 44, 32, 38, 9, 4, 48, 29,
33, 20, 49, 8, 15, 37, 10, 31, 1, 28, 19, 34, 35, 2, 27, 30, 25, 7, 21, 0]
2023-12-11 14:12:56,386 - INFO - Length of Best Tour: = 468
```

ALNS outputs

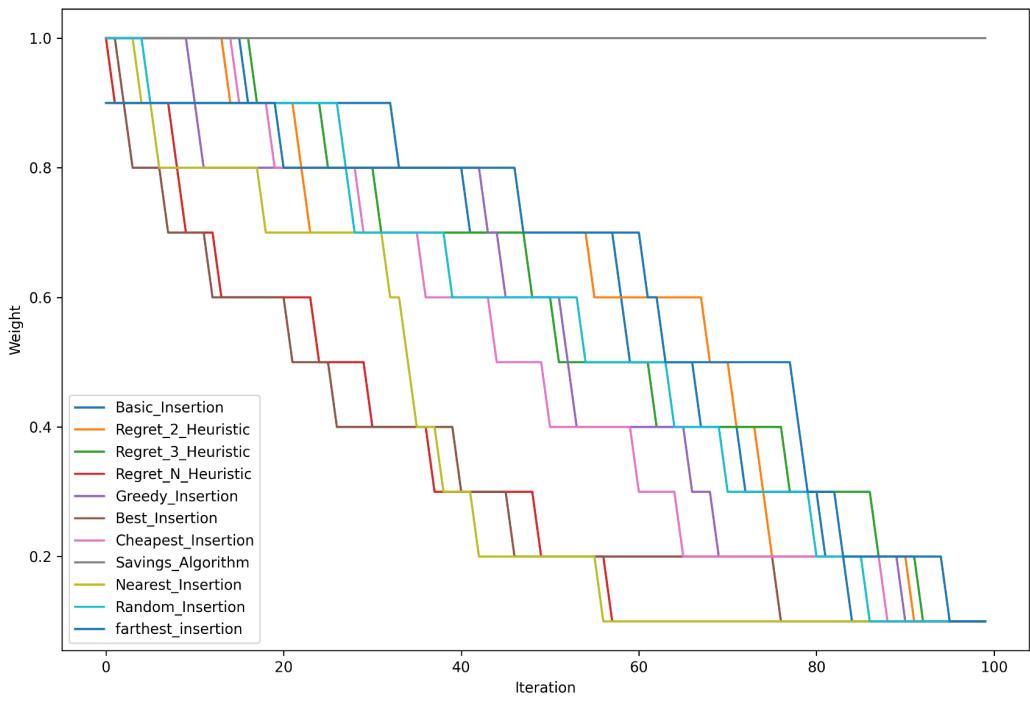
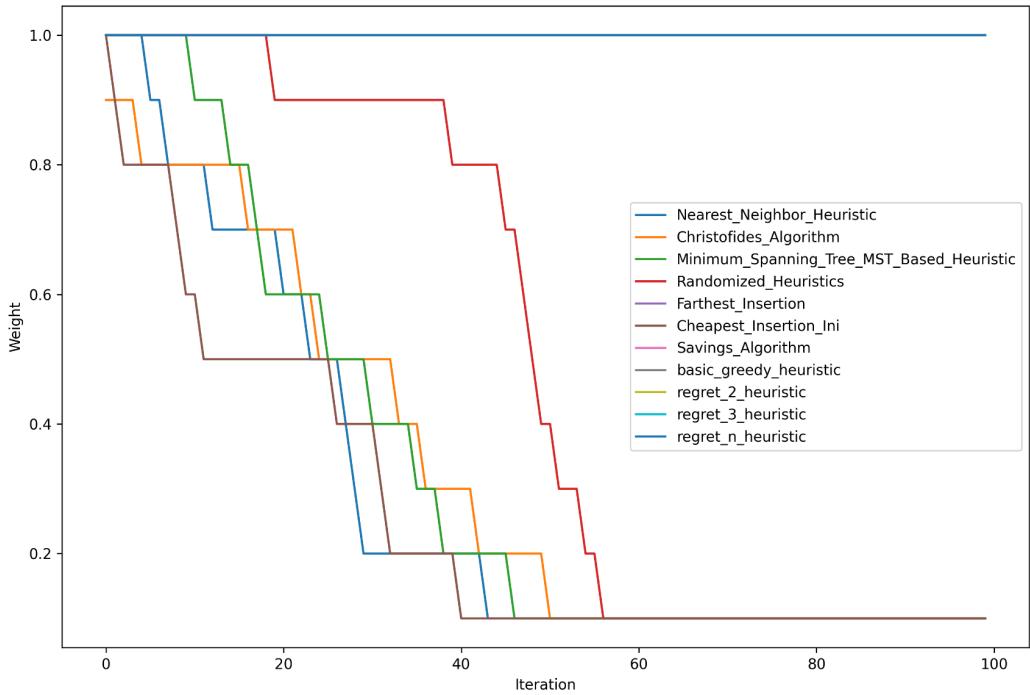
Graph with 51 nodes



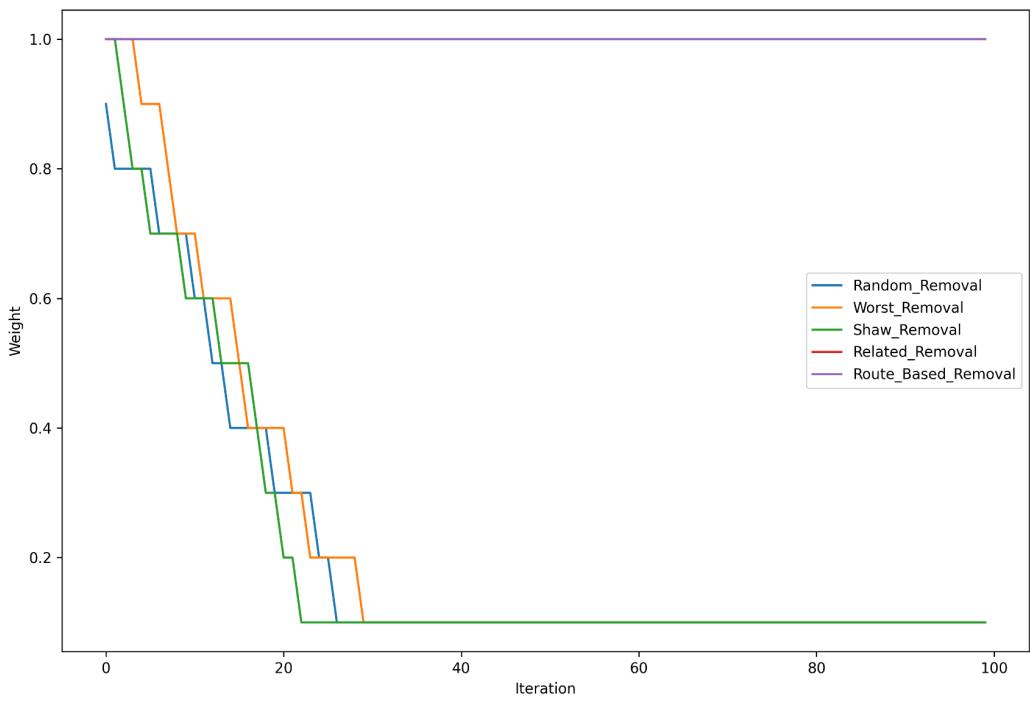
ALNS outputs



ALNS outputs



ALNS outputs



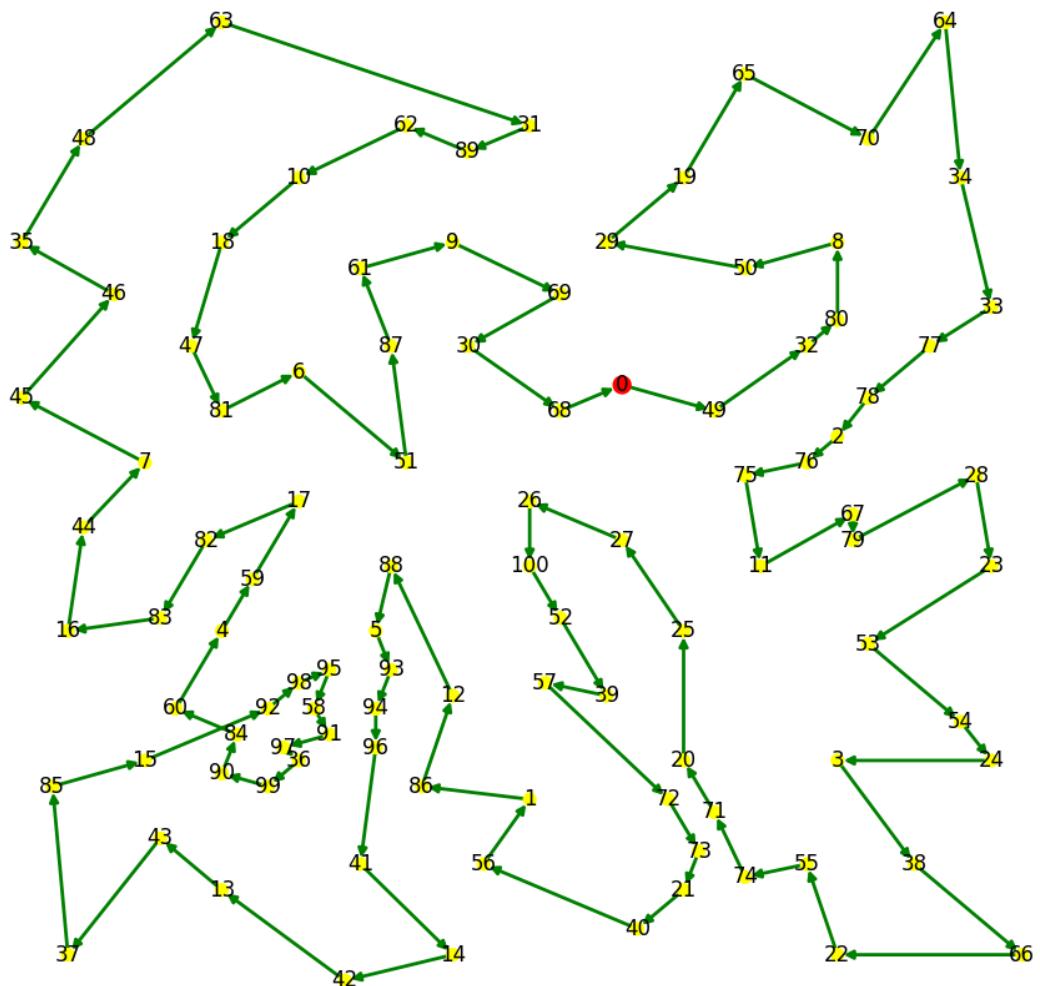
ALNS outputs

EIL101

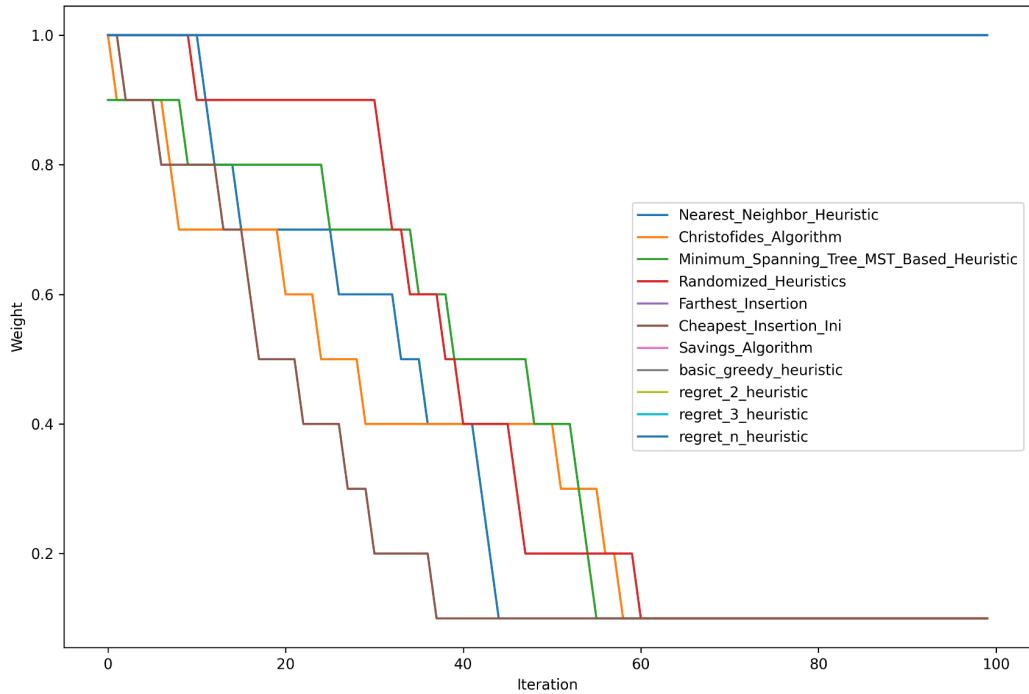
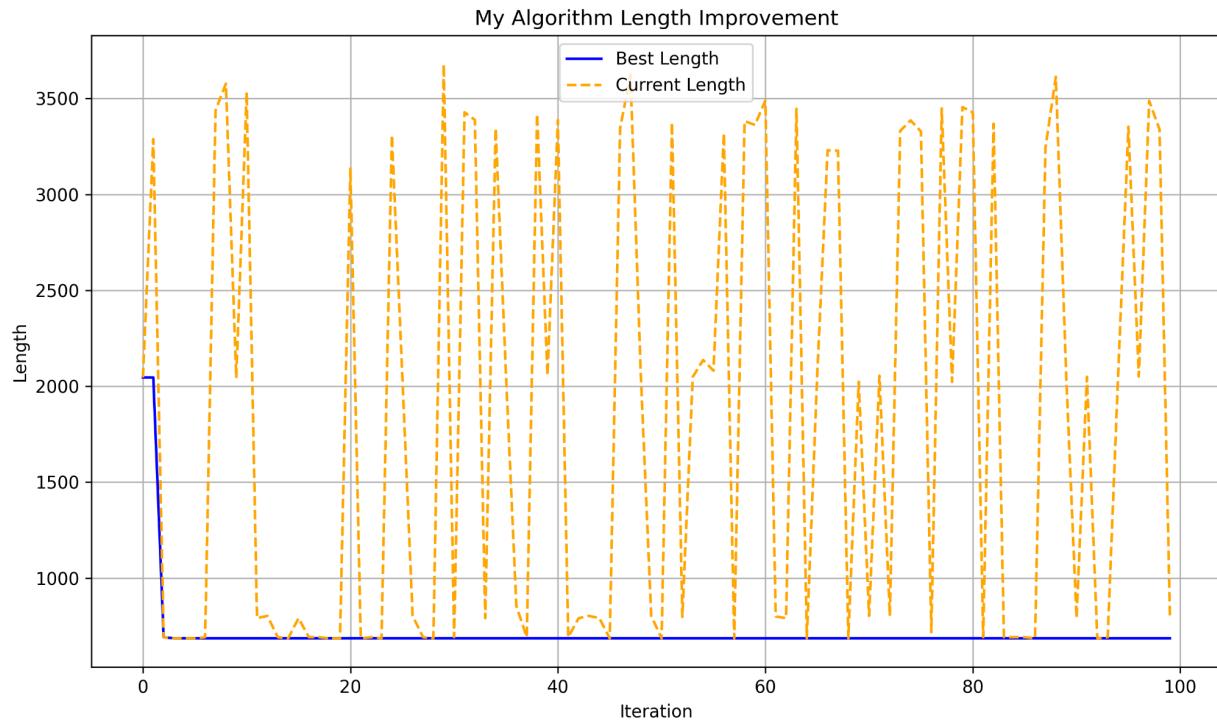
- 2023-12-11 14:13:30,659 - INFO - Iteration 100: Length of Tour = 798
- 2023-12-11 14:13:30,659 - INFO - Best Tour: = [0, 49, 32, 80, 8, 50, 29, 19, 65, 70, 64, 34, 33, 77, 78, 2, 76, 75, 11, 67, 79, 28, 23, 53, 54, 24, 3, 38, 66, 22, 55, 74, 71, 20, 25, 27, 26, 100, 52, 39, 57, 72, 73, 21, 40, 56, 1, 86, 12, 88, 5, 93, 94, 96, 41, 14, 42, 13, 43, 37, 85, 15, 92, 98, 95, 58, 91, 97, 36, 99, 90, 84, 60, 4, 59, 17, 82, 83, 16, 44, 7, 45, 46, 35, 48, 63, 31, 89, 62, 10, 18, 47, 81, 6, 51, 87, 61, 9, 69, 30, 68, 0]
- 2023-12-11 14:13:30,660 - INFO - Length of Best Tour: = 686

ALNS outputs

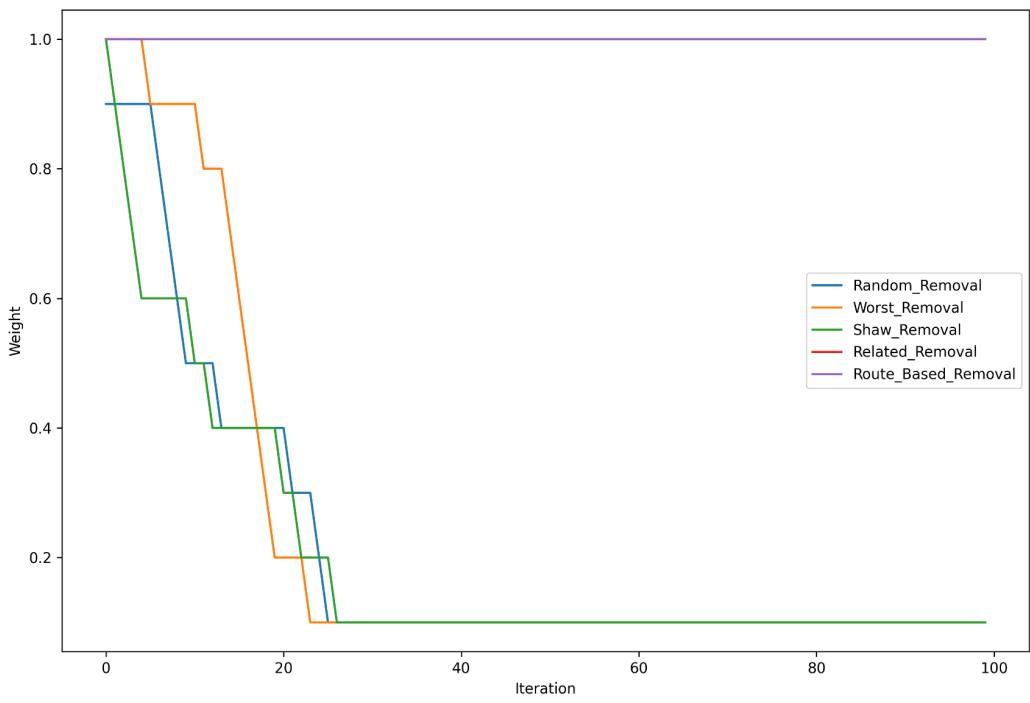
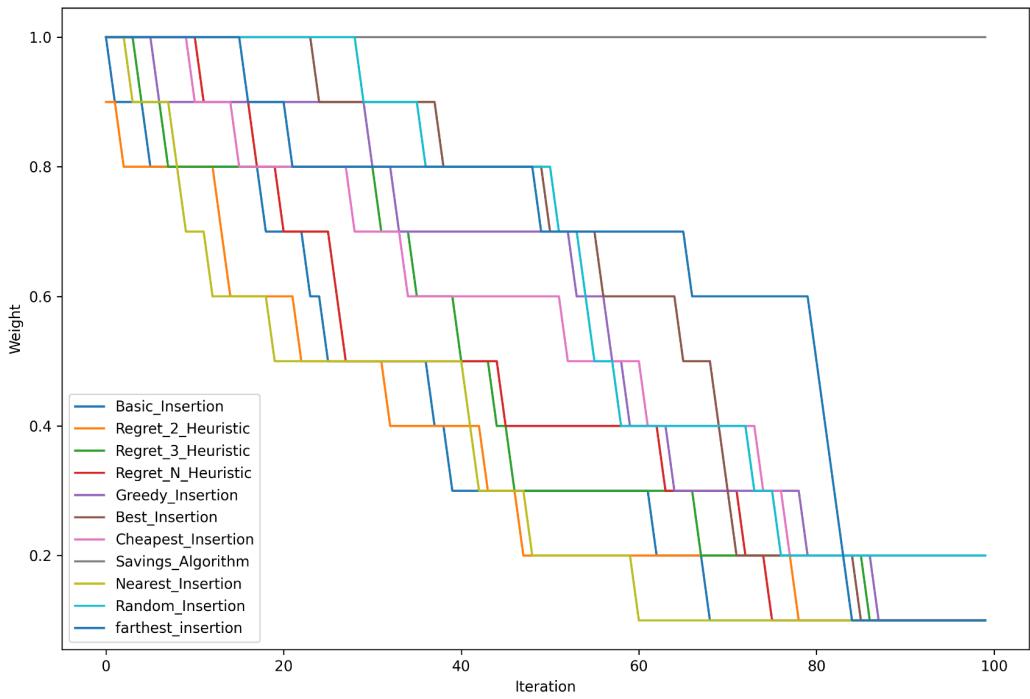
Graph with 101 nodes



ALNS outputs



ALNS outputs



ALNS outputs

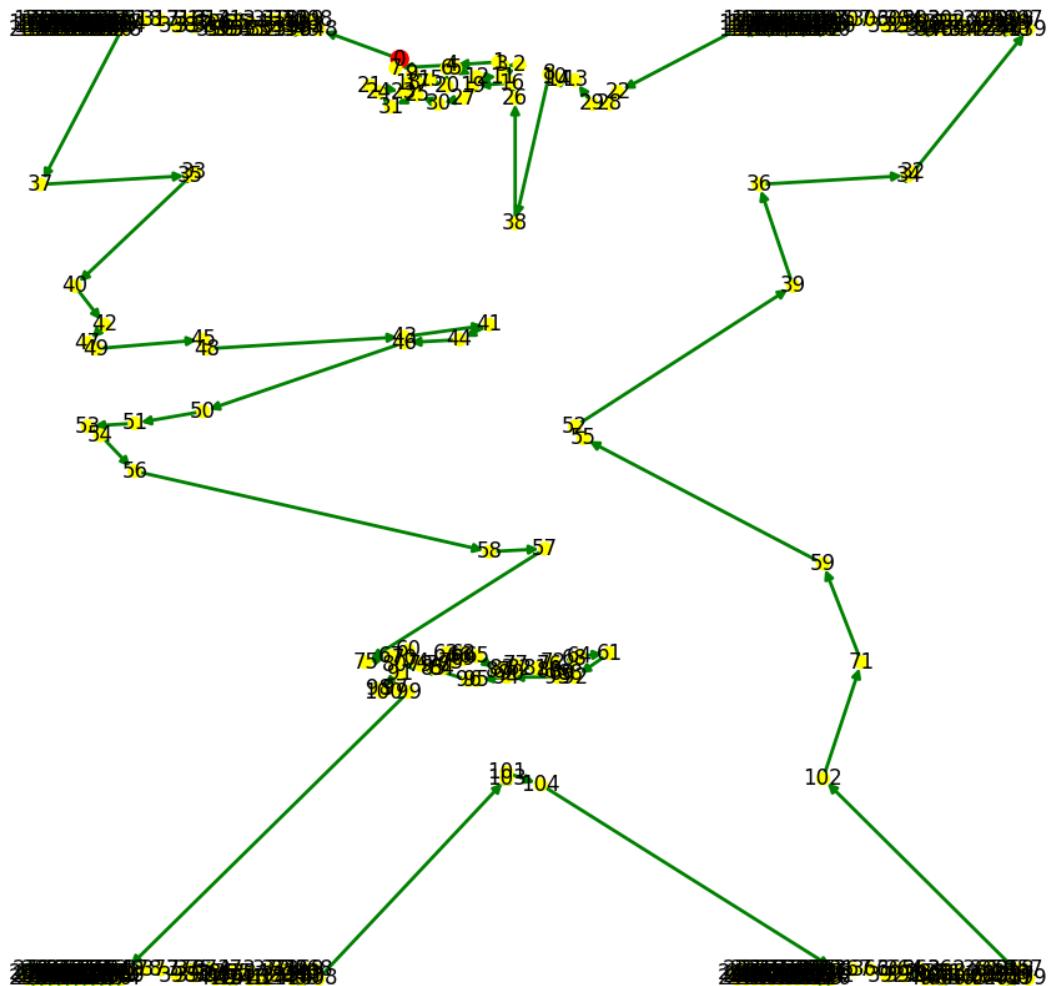
Fl417

```
2023-12-11 14:46:02,593 - INFO - Iteration 100: Length of Tour = 15012
2023-12-11 14:46:02,593 - INFO - Best Tour: = [0, 348, 308, 309, 333, 349, 323, 310,
350, 334, 335, 311, 312, 351, 352, 353, 324, 313, 325, 354, 355, 326, 314, 336, 356,
337, 315, 316, 338, 317, 318, 154, 153, 177, 156, 155, 179, 158, 157, 181, 160, 159,
183, 162, 161, 185, 164, 163, 187, 166, 165, 189, 168, 167, 191, 170, 169, 193, 172,
171, 195, 174, 173, 197, 175, 199, 176, 200, 198, 196, 194, 192, 190, 188, 186, 184,
182, 180, 178, 37, 35, 33, 40, 42, 47, 49, 45, 48, 43, 41, 44, 46, 50, 51, 53, 54, 56,
58, 57, 75, 67, 60, 70, 74, 85, 78, 84, 73, 63, 66, 62, 69, 65, 87, 83, 90, 77, 82,
81, 76, 72, 86, 89, 88, 68, 64, 61, 92, 93, 94, 95, 96, 79, 80, 91, 98, 100, 97, 99,
249, 251, 253, 255, 257, 259, 261, 263, 265, 267, 269, 271, 293, 295, 272, 296, 294,
270, 291, 292, 268, 289, 290, 266, 287, 288, 264, 285, 286, 262, 283, 284, 260, 281,
282, 258, 279, 280, 256, 277, 278, 254, 275, 276, 252, 273, 274, 250, 378, 377, 398,
376, 375, 397, 396, 374, 386, 416, 415, 414, 385, 373, 384, 413, 412, 411, 372, 371,
370, 395, 394, 410, 409, 383, 369, 368, 393, 408, 103, 101, 104, 201, 225, 203, 205,
227, 206, 229, 207, 208, 231, 209, 210, 233, 211, 212, 235, 213, 214, 237, 215, 216,
239, 217, 218, 241, 219, 220, 243, 221, 222, 245, 223, 247, 224, 248, 246, 244, 242,
240, 238, 236, 234, 232, 230, 228, 204, 226, 202, 367, 366, 392, 365, 364, 391, 363,
382, 390, 407, 406, 405, 381, 362, 380, 404, 403, 402, 361, 360, 359, 389, 388, 401,
400, 379, 387, 399, 357, 358, 102, 71, 59, 55, 52, 39, 36, 34, 32, 339, 297, 298, 327,
340, 319, 341, 328, 329, 299, 300, 301, 342, 343, 344, 320, 302, 321, 345, 346, 347,
330, 322, 303, 331, 304, 305, 332, 306, 307, 105, 106, 130, 132, 108, 129, 107, 131,
110, 109, 133, 134, 136, 112, 111, 135, 114, 113, 137, 138, 140, 116, 115, 139, 118,
117, 141, 142, 144, 120, 119, 143, 122, 121, 145, 146, 148, 124, 123, 147, 126, 125,
149, 150, 128, 127, 151, 152, 22, 28, 29, 13, 14, 10, 8, 38, 26, 16, 19, 27, 30, 25,
31, 24, 21, 23, 18, 17, 9, 15, 20, 6, 5, 12, 11, 2, 3, 1, 4, 7, 0]
```

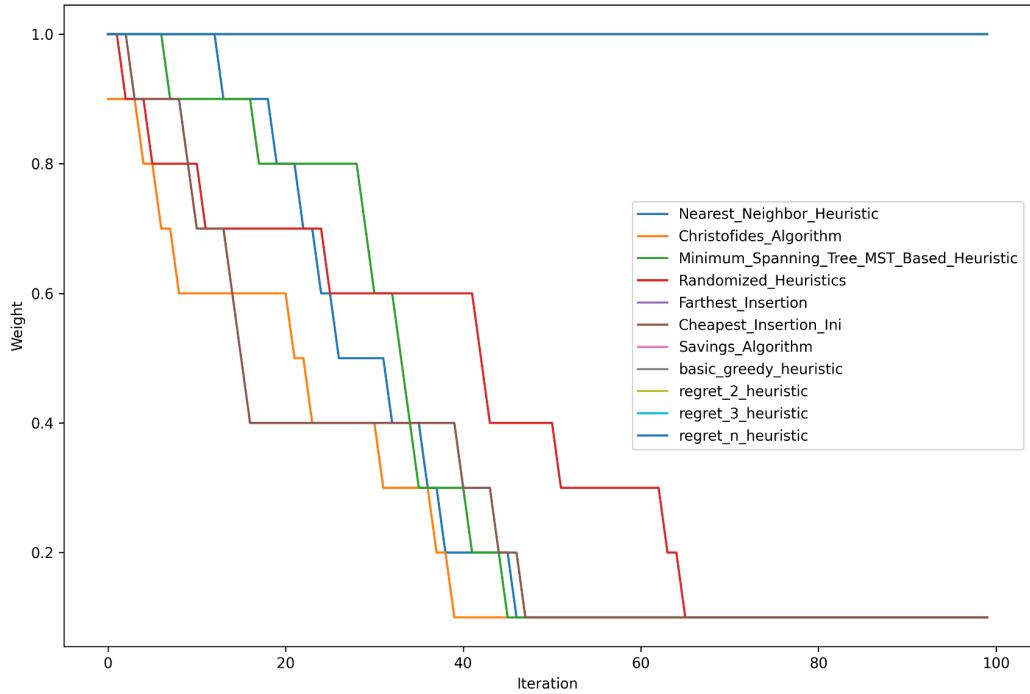
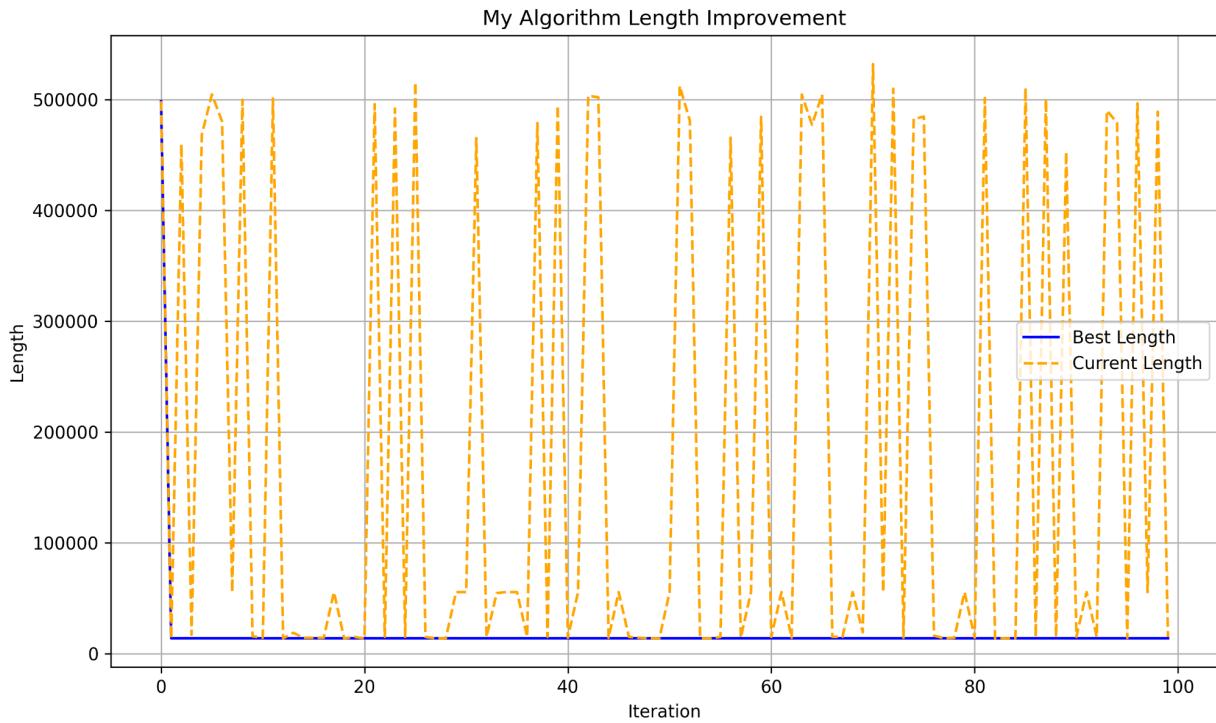
2023-12-11 14:46:02,593 - INFO - Length of Best Tour: = 13733

ALNS outputs

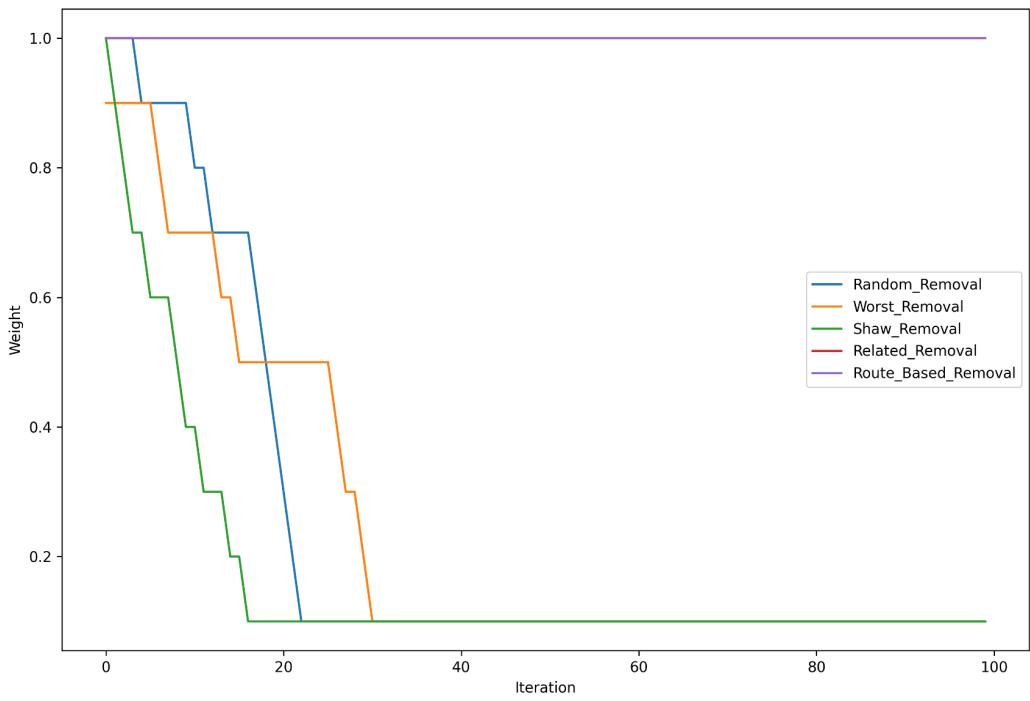
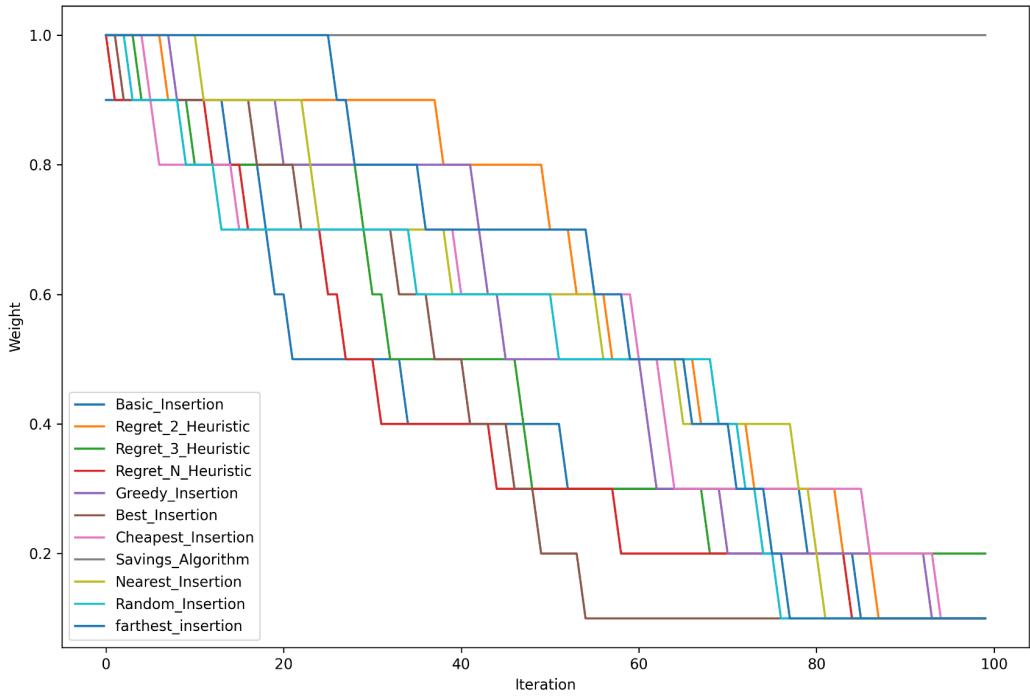
Graph with 417 nodes



ALNS outputs



ALNS outputs



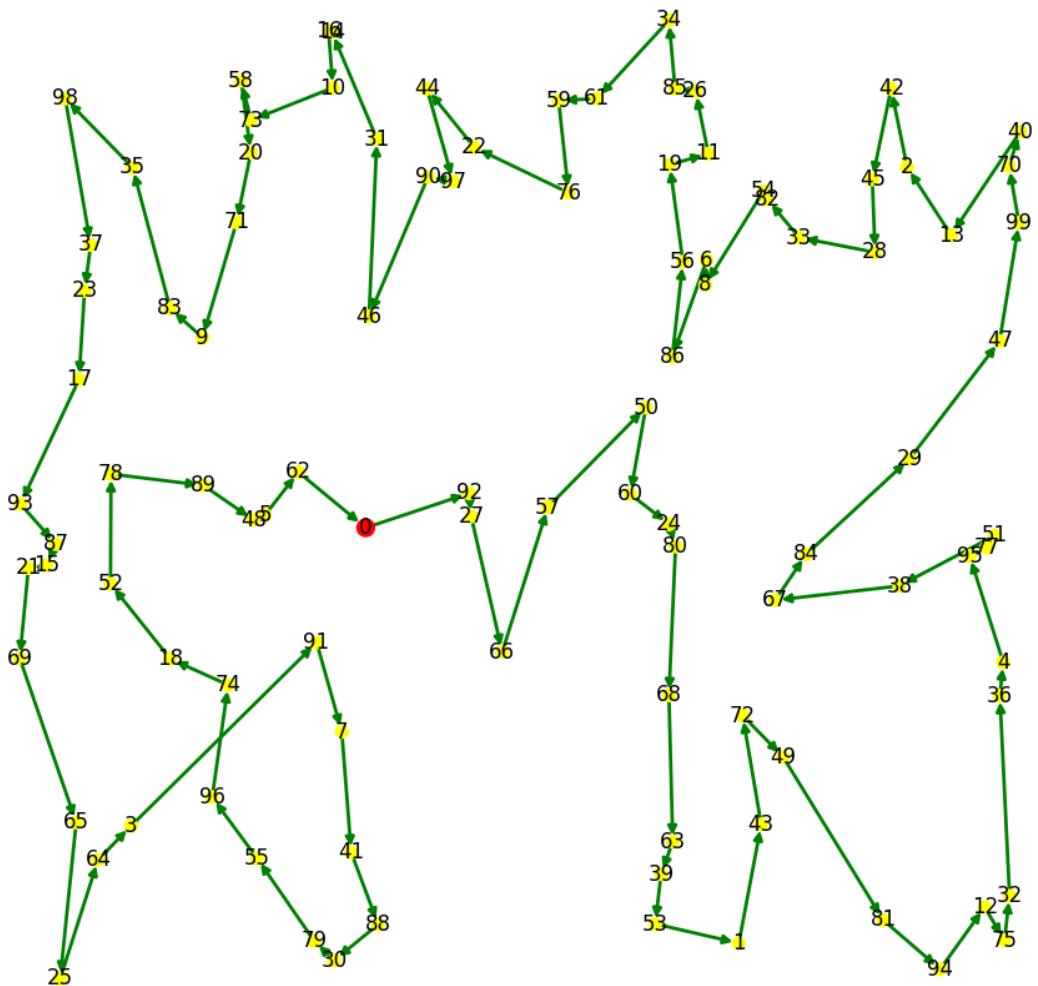
ALNS outputs

kroA100

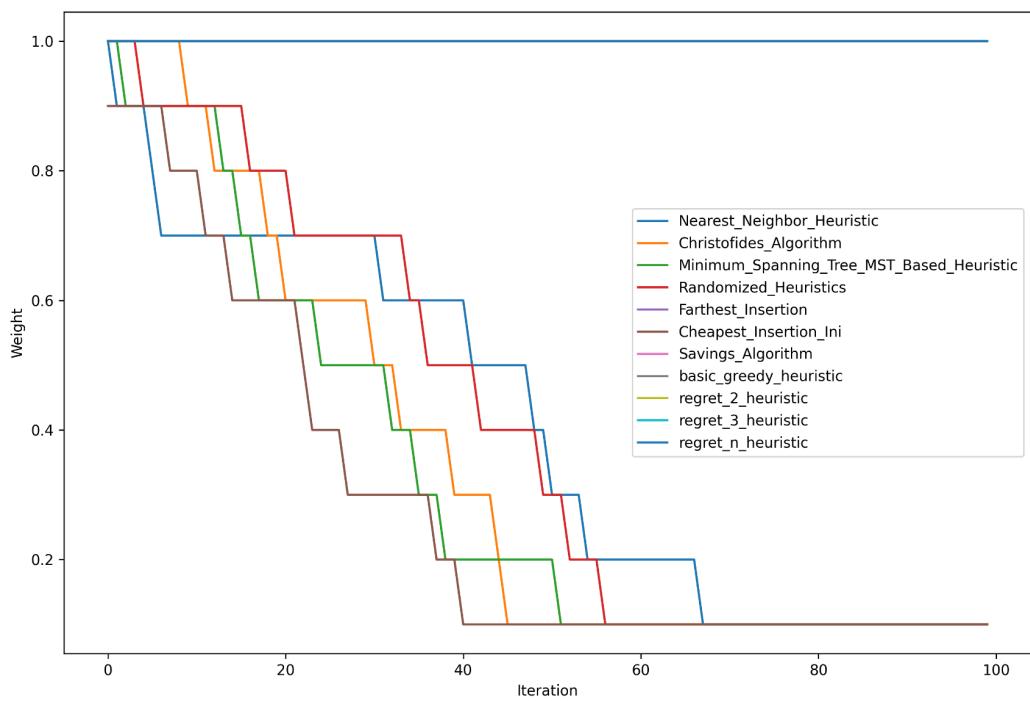
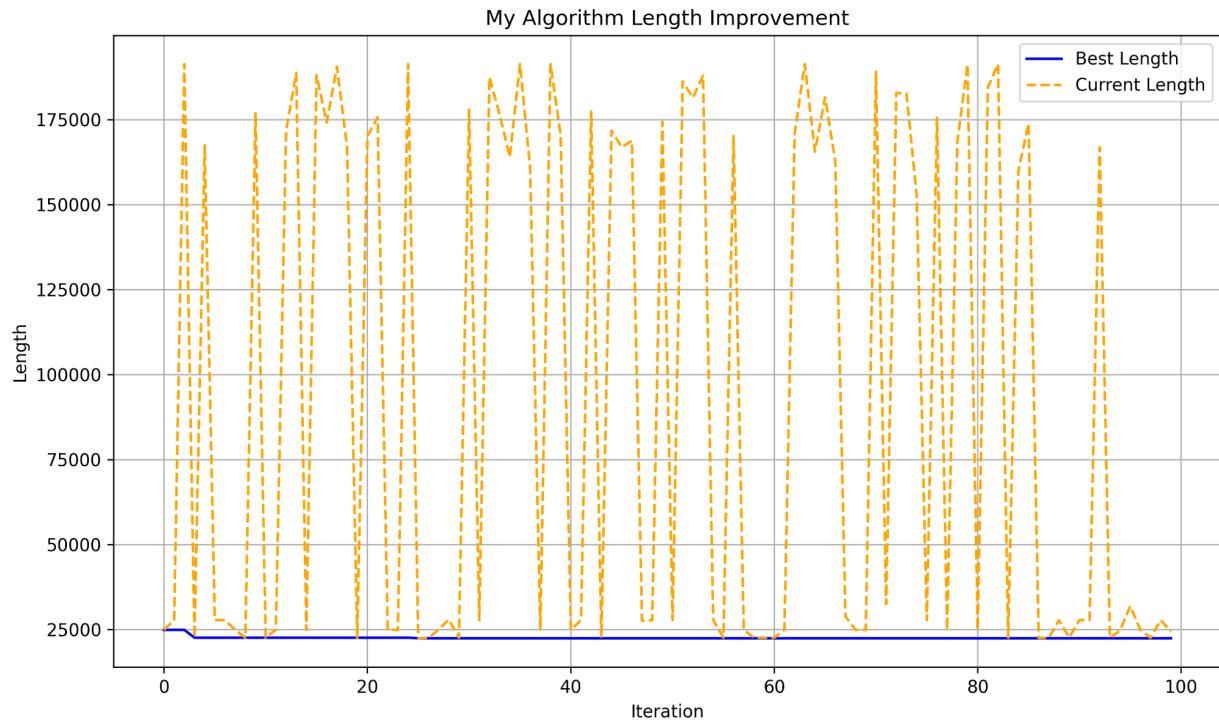
```
2023-12-11 14:50:21,413 - INFO - Iteration 100: Length of Tour = 24421
2023-12-11 14:50:21,413 - INFO - Best Tour: = [0, 92, 27, 66, 57, 50, 60, 24, 80, 68,
63, 39, 53, 1, 43, 72, 49, 81, 94, 12, 75, 32, 36, 4, 95, 77, 51, 38, 67, 84, 29, 47,
99, 70, 40, 13, 2, 42, 45, 28, 33, 82, 54, 8, 6, 86, 56, 19, 11, 26, 85, 34, 61, 59,
76, 22, 44, 97, 90, 46, 31, 14, 16, 10, 73, 58, 20, 71, 9, 83, 35, 98, 37, 23, 17, 93,
87, 15, 21, 69, 65, 25, 64, 3, 91, 7, 41, 88, 30, 79, 55, 96, 74, 18, 52, 78, 89, 48,
5, 62, 0]
2023-12-11 14:50:21,413 - INFO - Length of Best Tour: = 22450
```

ALNS outputs

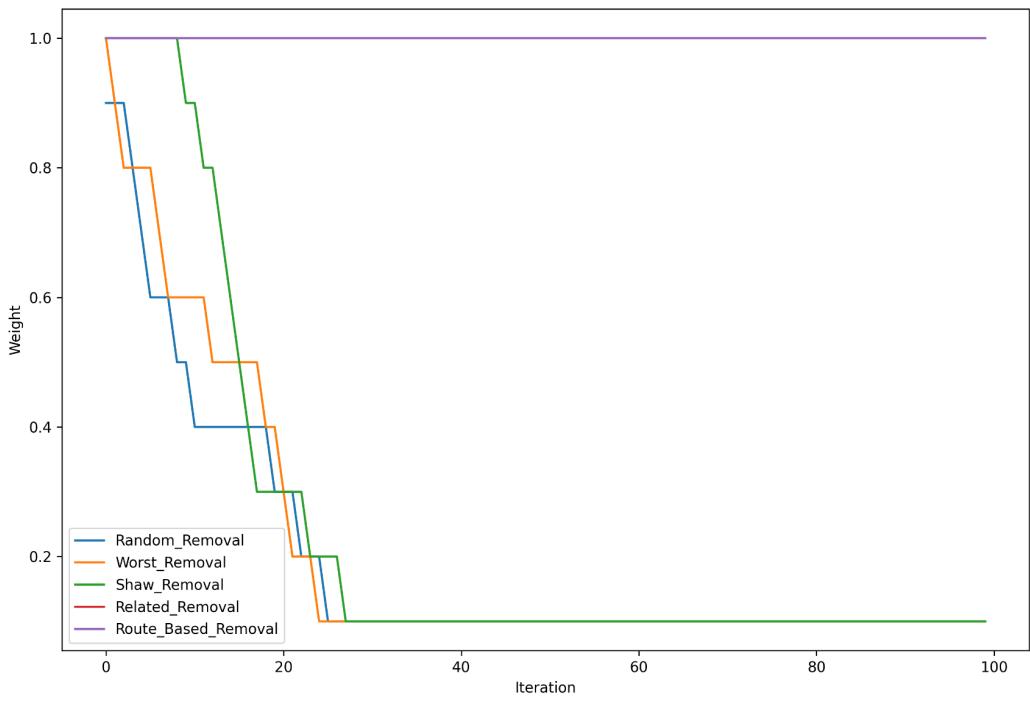
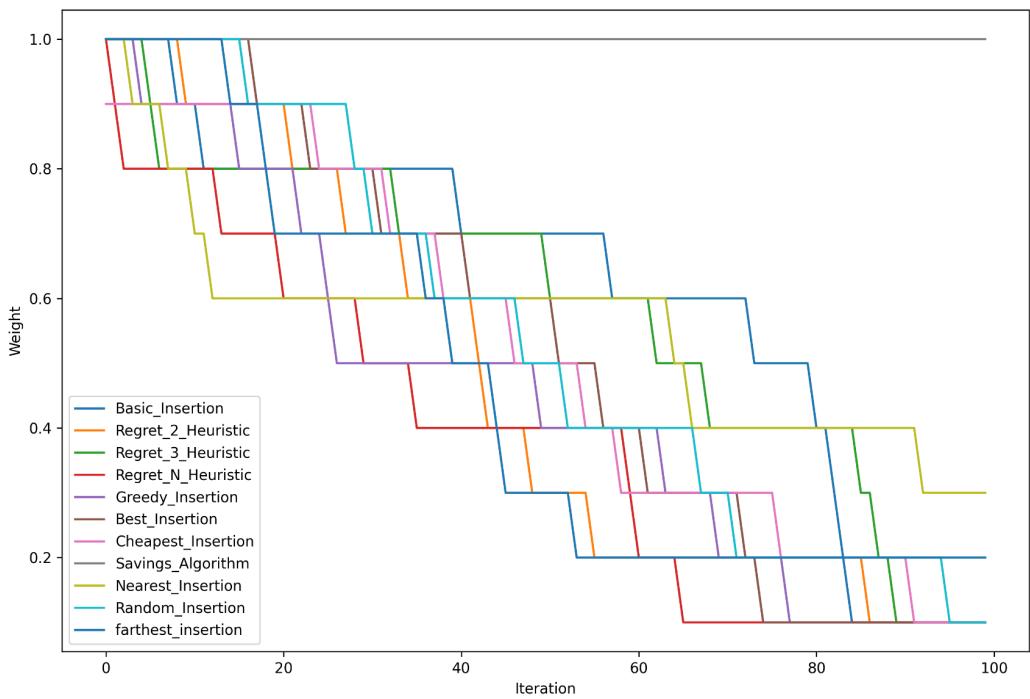
Graph with 100 nodes



ALNS outputs



ALNS outputs

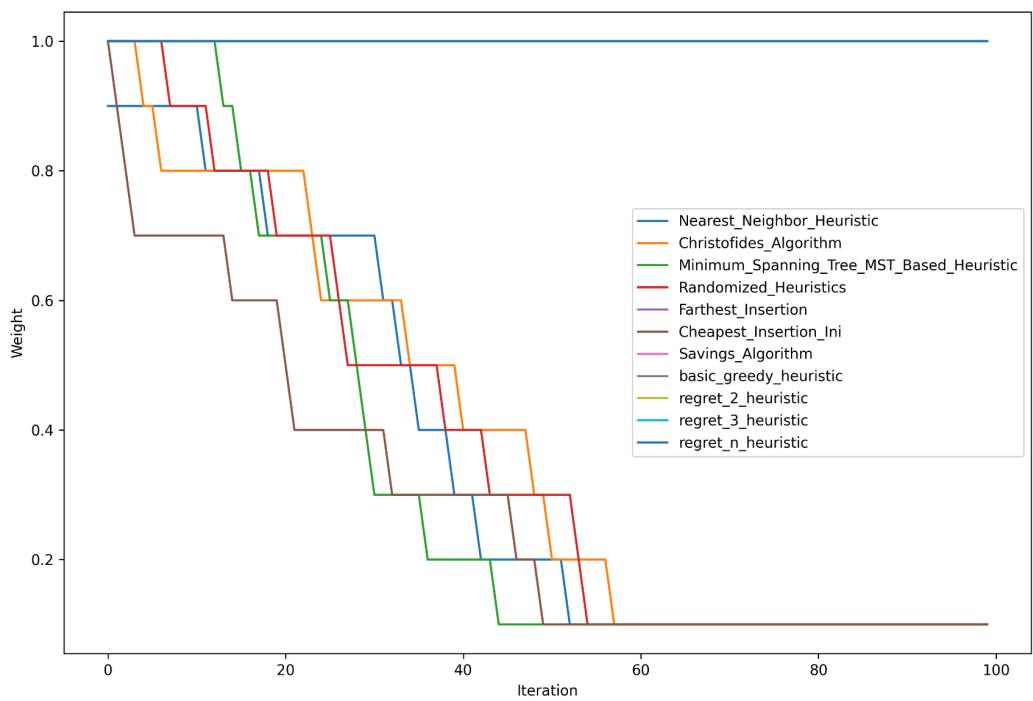
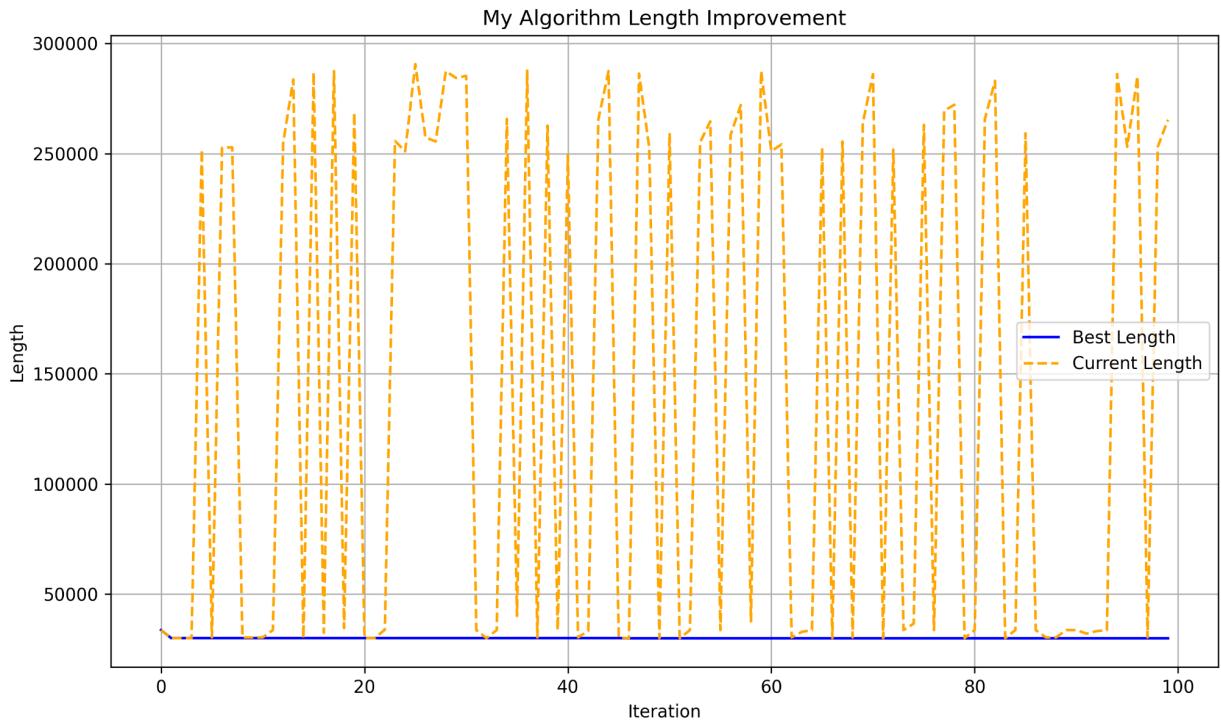


ALNS outputs

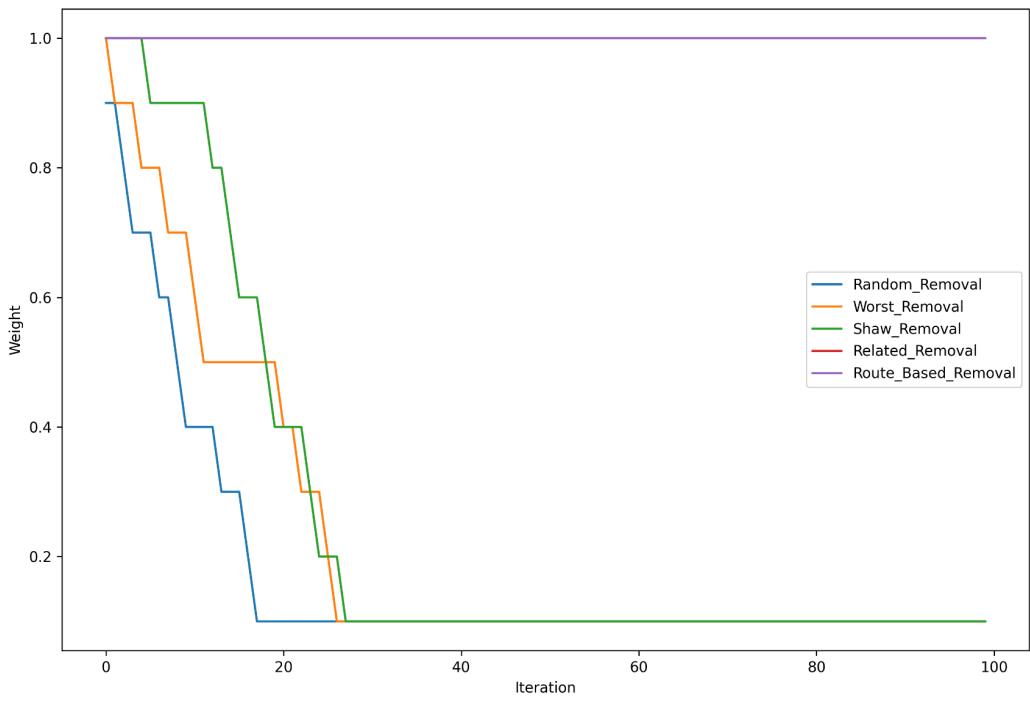
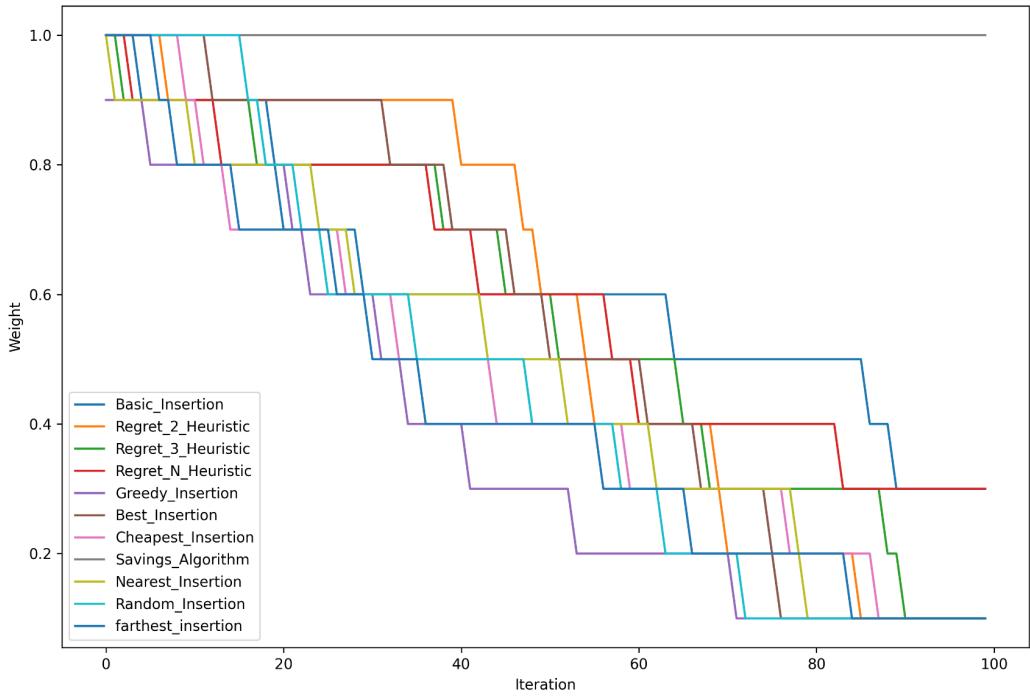
kroA150

```
2023-12-11 14:51:53,835 - INFO - Iteration 100: Length of Tour = 265375
2023-12-11 14:51:53,835 - INFO - Best Tour: = [0, 62, 5, 48, 89, 105, 78, 9, 83, 112,
71, 20, 73, 140, 58, 126, 35, 98, 101, 110, 103, 37, 23, 17, 136, 87, 93, 21, 69, 15,
133, 52, 18, 96, 74, 3, 65, 64, 128, 25, 123, 117, 118, 142, 55, 138, 79, 30, 88, 137,
132, 121, 41, 7, 91, 147, 141, 104, 66, 107, 68, 63, 39, 53, 1, 143, 113, 43, 115, 49,
72, 67, 84, 80, 24, 139, 134, 33, 82, 54, 148, 28, 111, 106, 51, 77, 95, 4, 36, 102,
145, 32, 75, 12, 94, 125, 81, 146, 38, 100, 120, 29, 131, 45, 2, 13, 47, 99, 70, 40,
135, 127, 42, 122, 114, 119, 26, 85, 34, 149, 61, 59, 109, 76, 19, 11, 116, 6, 8, 56,
144, 86, 124, 50, 60, 57, 27, 92, 130, 22, 97, 90, 44, 108, 31, 14, 16, 10, 46, 129,
0]
2023-12-11 14:51:53,835 - INFO - Length of Best Tour: = 29881
```

ALNS outputs



ALNS outputs



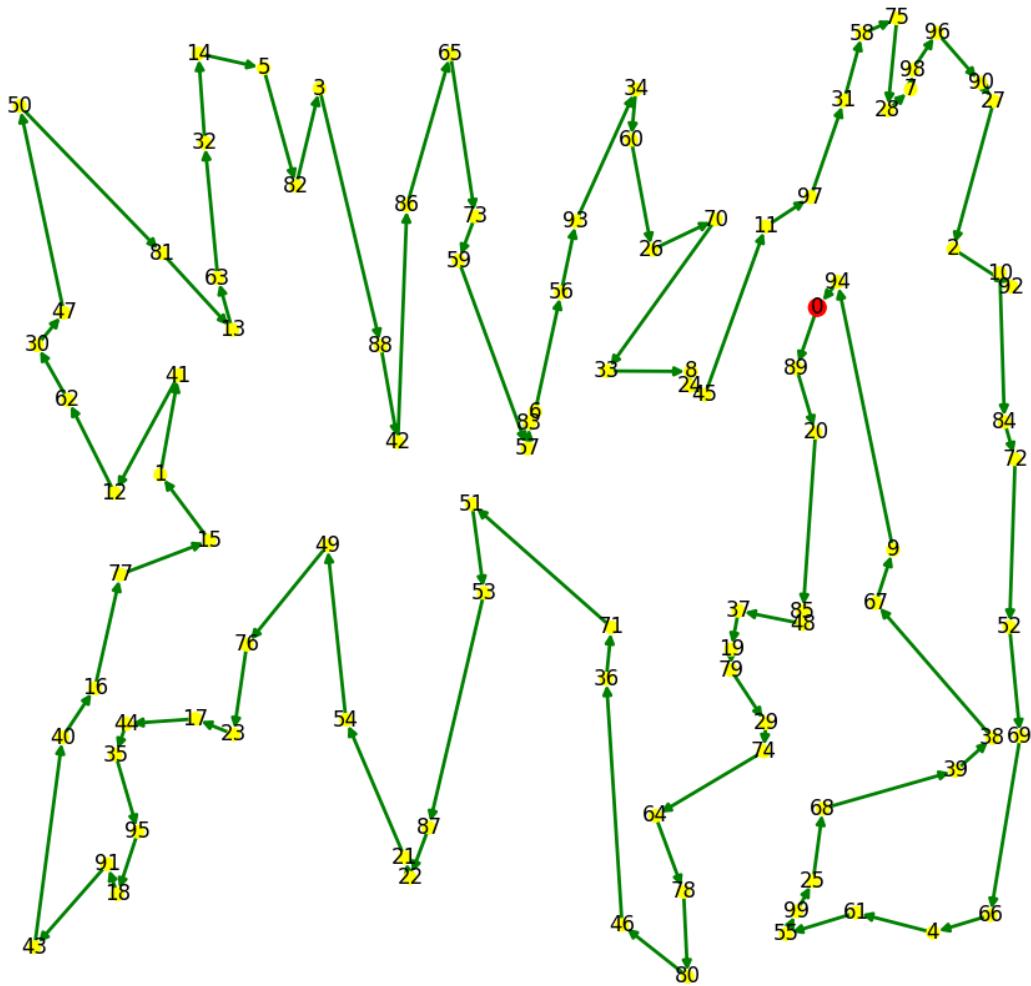
ALNS outputs

kroB100

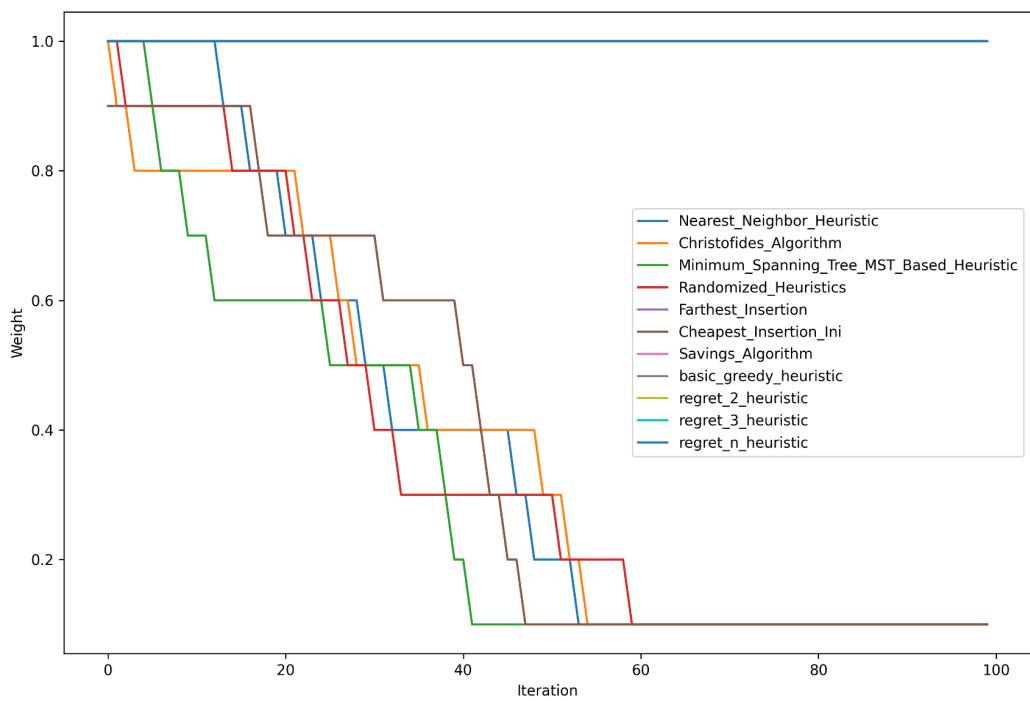
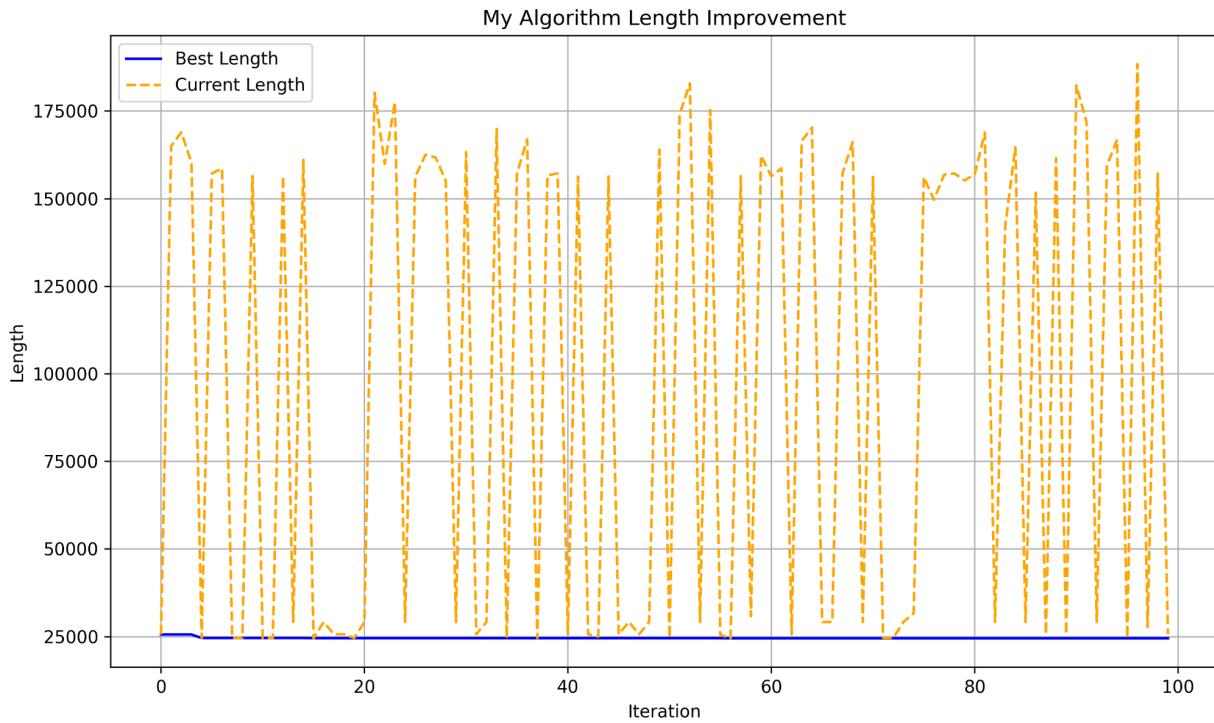
```
2023-12-11 14:52:27,316 - INFO - Iteration 100: Length of Tour = 25582
2023-12-11 14:52:27,316 - INFO - Best Tour: = [0, 89, 20, 85, 48, 37, 19, 79, 29, 74,
64, 78, 80, 46, 36, 71, 51, 53, 87, 22, 21, 54, 49, 76, 23, 17, 44, 35, 95, 18, 91,
43, 40, 16, 77, 15, 1, 41, 12, 62, 30, 47, 50, 81, 13, 63, 32, 14, 5, 82, 3, 88, 42,
86, 65, 73, 59, 57, 83, 6, 56, 93, 34, 60, 26, 70, 33, 8, 24, 45, 11, 97, 31, 58, 75,
28, 7, 98, 96, 90, 27, 2, 92, 10, 84, 72, 52, 69, 66, 4, 61, 55, 99, 25, 68, 39, 38,
67, 9, 94, 0]
2023-12-11 14:52:27,316 - INFO - Length of Best Tour: = 24443
```

ALNS outputs

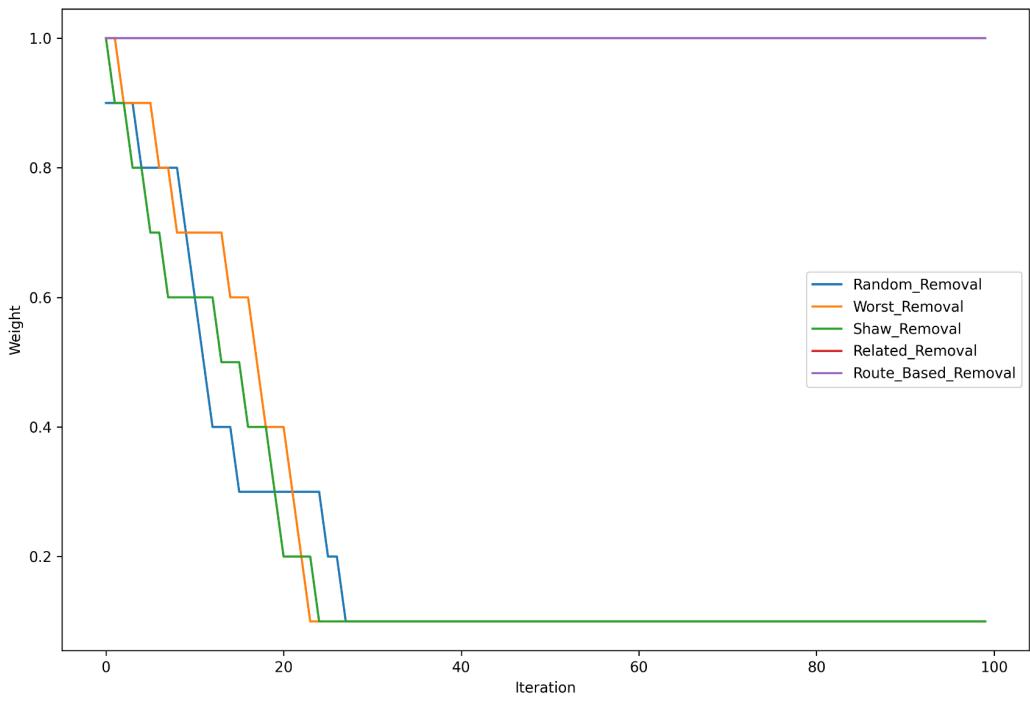
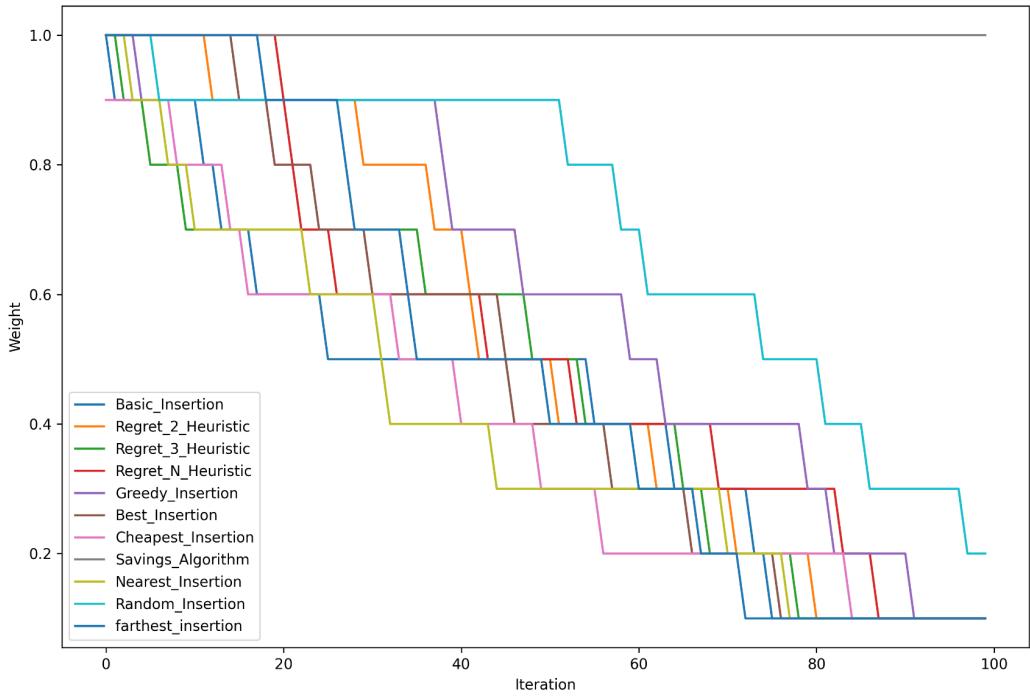
Graph with 100 nodes



ALNS outputs



ALNS outputs



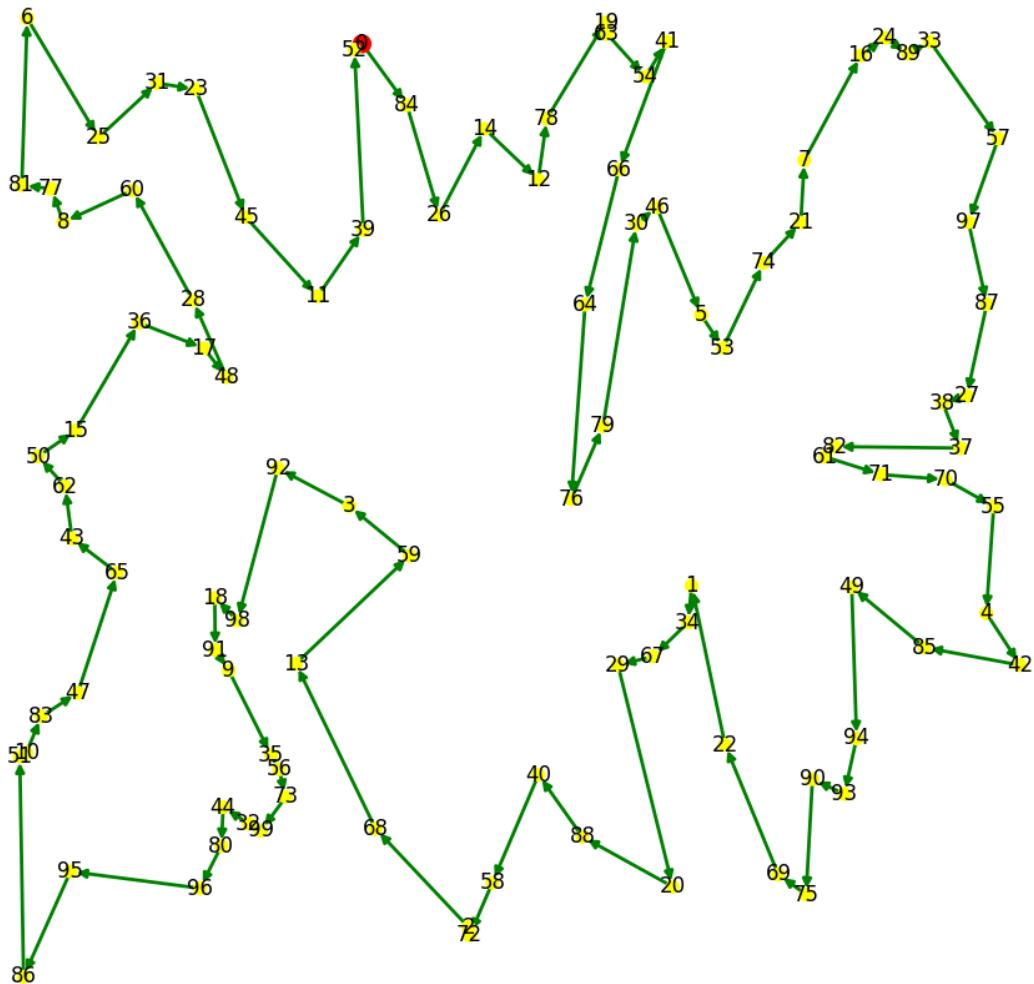
ALNS outputs

kroC100

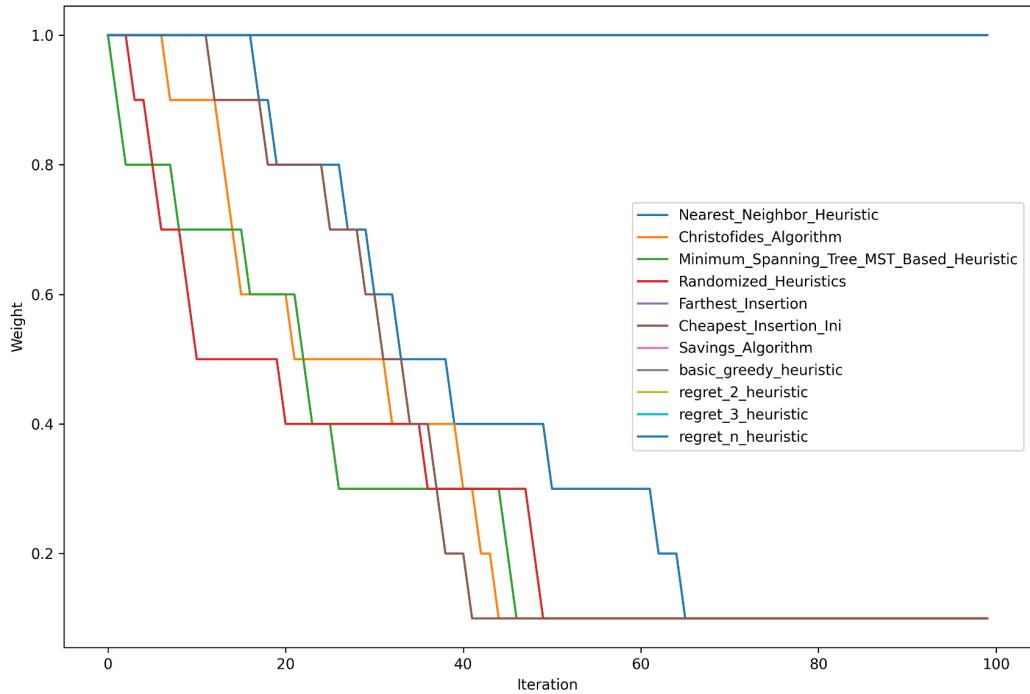
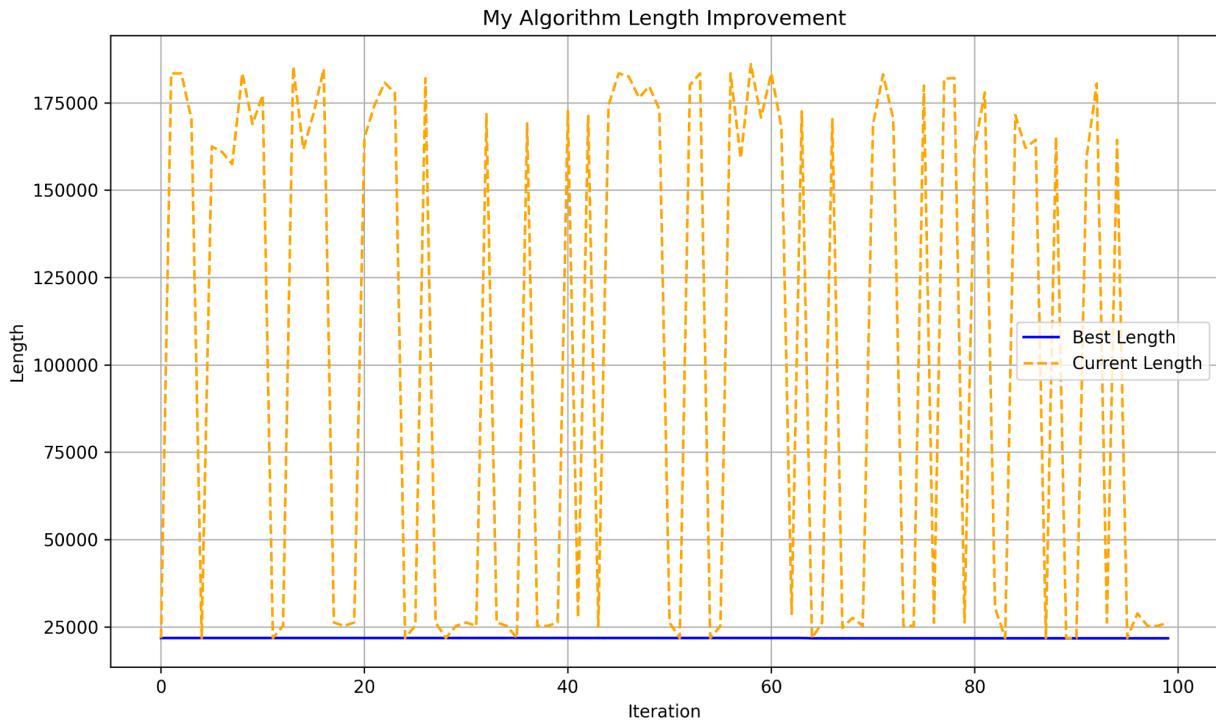
```
2023-12-11 14:53:00,585 - INFO - Iteration 100: Length of Tour = 26227
2023-12-11 14:53:00,585 - INFO - Best Tour: = [0, 84, 26, 14, 12, 78, 19, 63, 54, 41,
66, 64, 76, 79, 30, 46, 5, 53, 74, 21, 7, 16, 24, 89, 33, 57, 97, 87, 27, 38, 37, 82,
61, 71, 70, 55, 4, 42, 85, 49, 94, 93, 90, 75, 69, 22, 1, 34, 67, 29, 20, 88, 40, 58,
72, 2, 68, 13, 59, 3, 92, 98, 18, 91, 9, 35, 56, 73, 99, 32, 44, 80, 96, 95, 86, 51,
10, 83, 47, 65, 43, 62, 50, 15, 36, 17, 48, 28, 60, 8, 77, 81, 6, 25, 31, 23, 45, 11,
39, 52, 0]
2023-12-11 14:53:00,585 - INFO - Length of Best Tour: = 21701
```

ALNS outputs

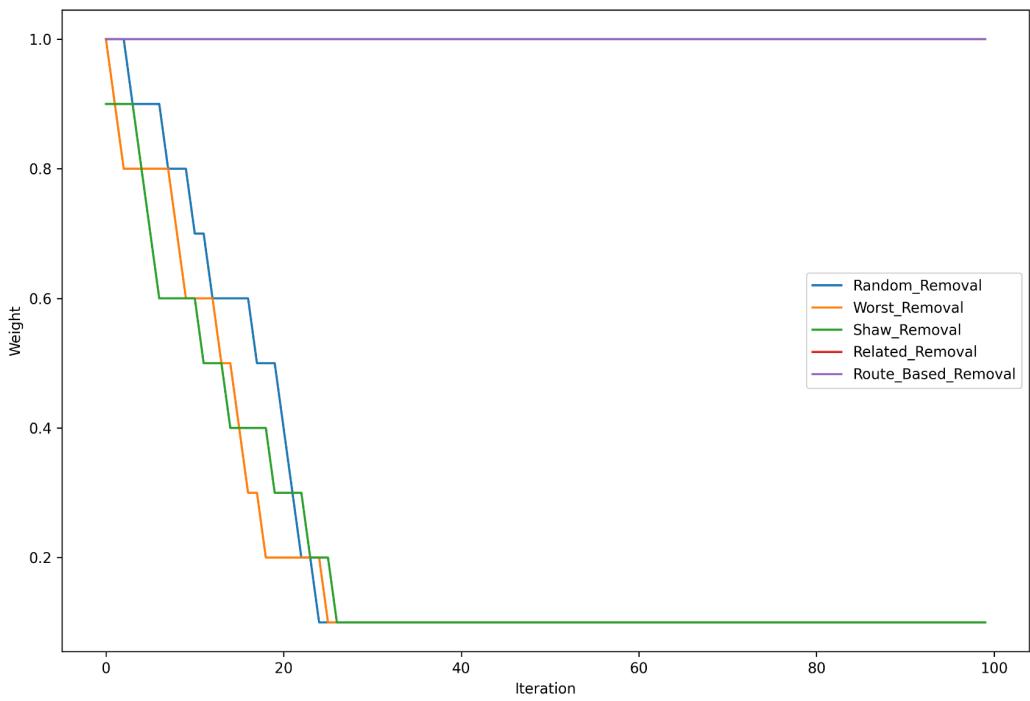
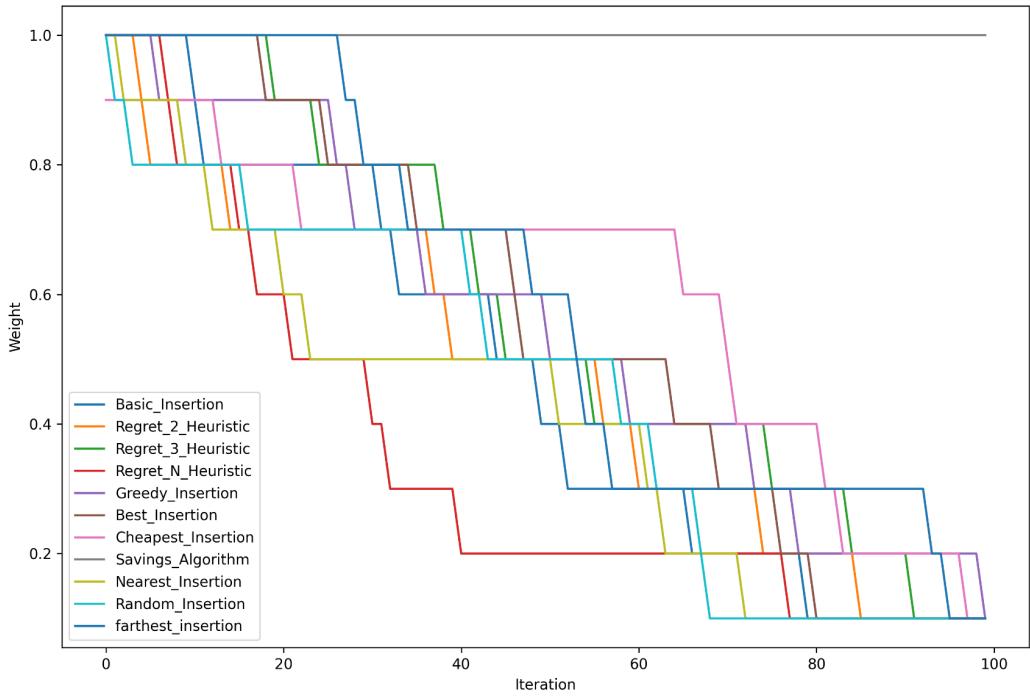
Graph with 100 nodes



ALNS outputs



ALNS outputs

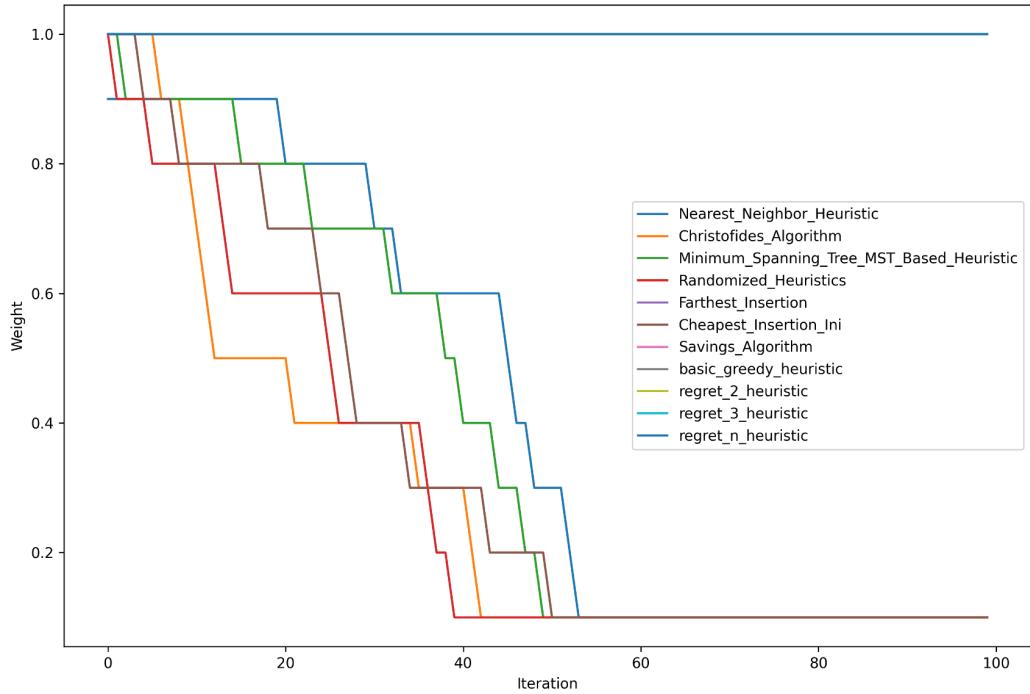
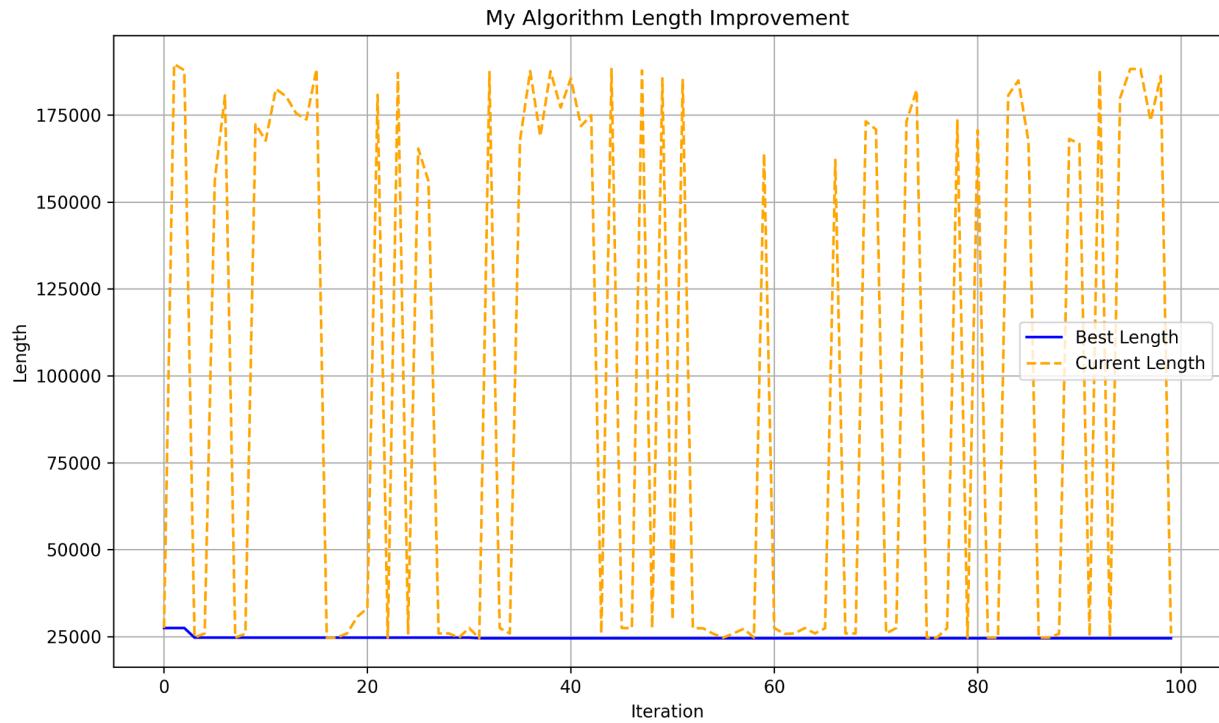


ALNS outputs

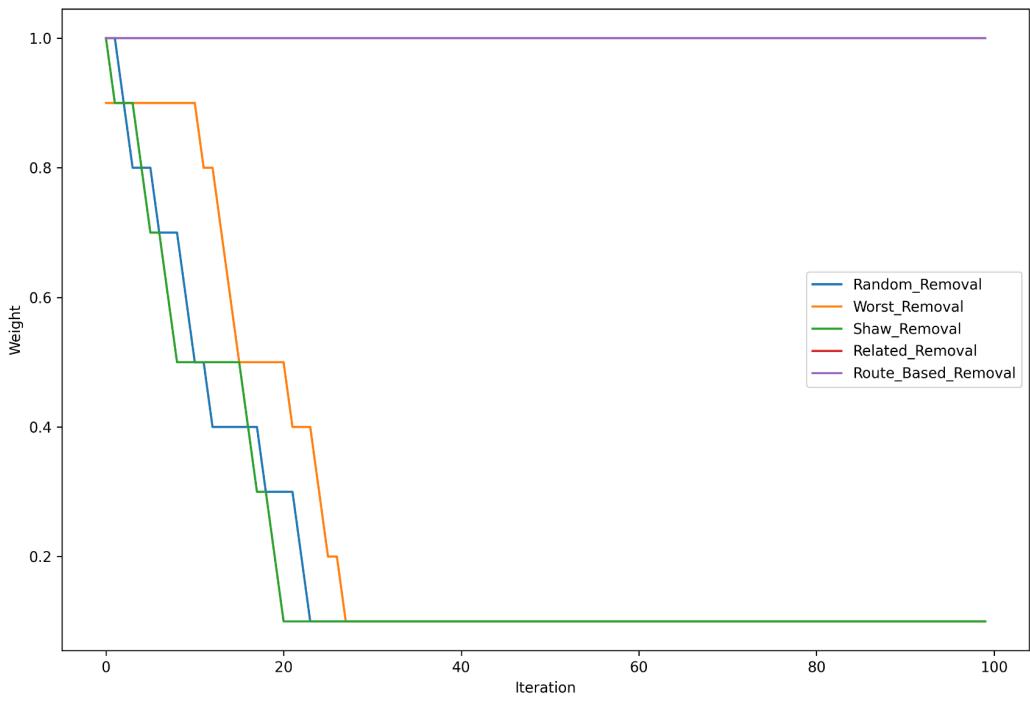
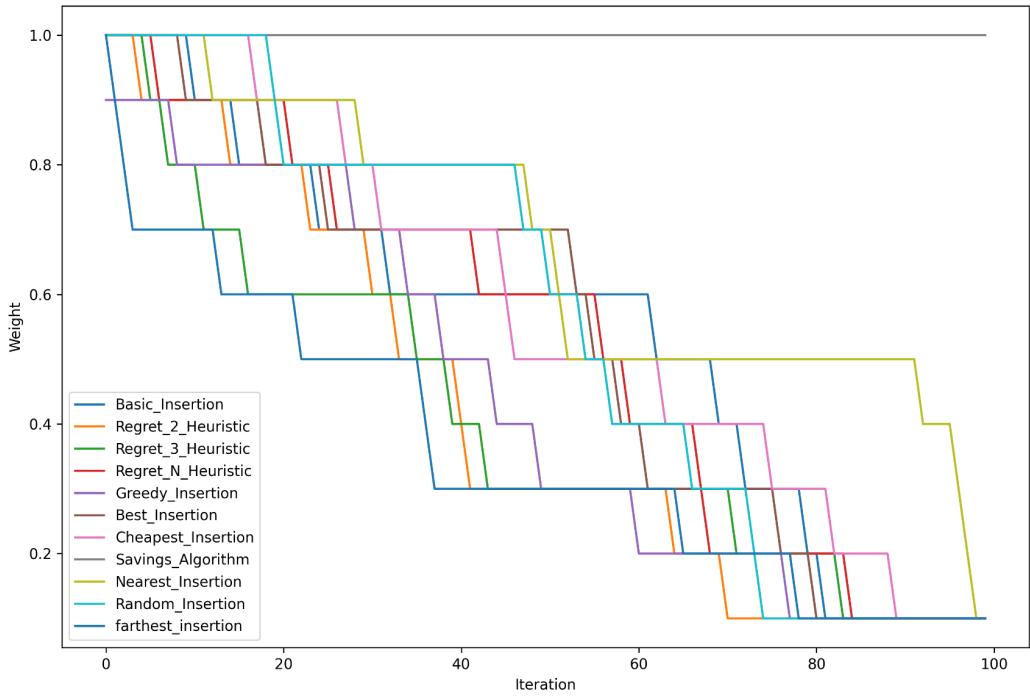
kroE100.tsp

```
2023-12-11 14:53:38,494 - INFO -
2023-12-11 14:53:38,494 - INFO - Iteration 100: Length of Tour = 25900
2023-12-11 14:53:38,494 - INFO - Best Tour: = [0, 82, 68, 46, 2, 45, 25, 78, 72, 15,
60, 70, 80, 88, 13, 51, 43, 71, 7, 64, 4, 47, 67, 37, 32, 21, 38, 85, 42, 18, 93, 17,
23, 28, 99, 77, 52, 33, 92, 90, 54, 5, 69, 36, 76, 84, 95, 10, 1, 3, 91, 81, 66, 26,
74, 40, 86, 12, 29, 89, 41, 65, 30, 8, 56, 79, 9, 59, 49, 96, 53, 24, 98, 44, 39, 16,
83, 48, 19, 14, 55, 61, 63, 22, 27, 35, 94, 58, 57, 62, 34, 87, 11, 75, 31, 97, 50,
20, 6, 73, 0]
2023-12-11 14:53:38,494 - INFO - Length of Best Tour: = 24492
```

ALNS outputs



ALNS outputs



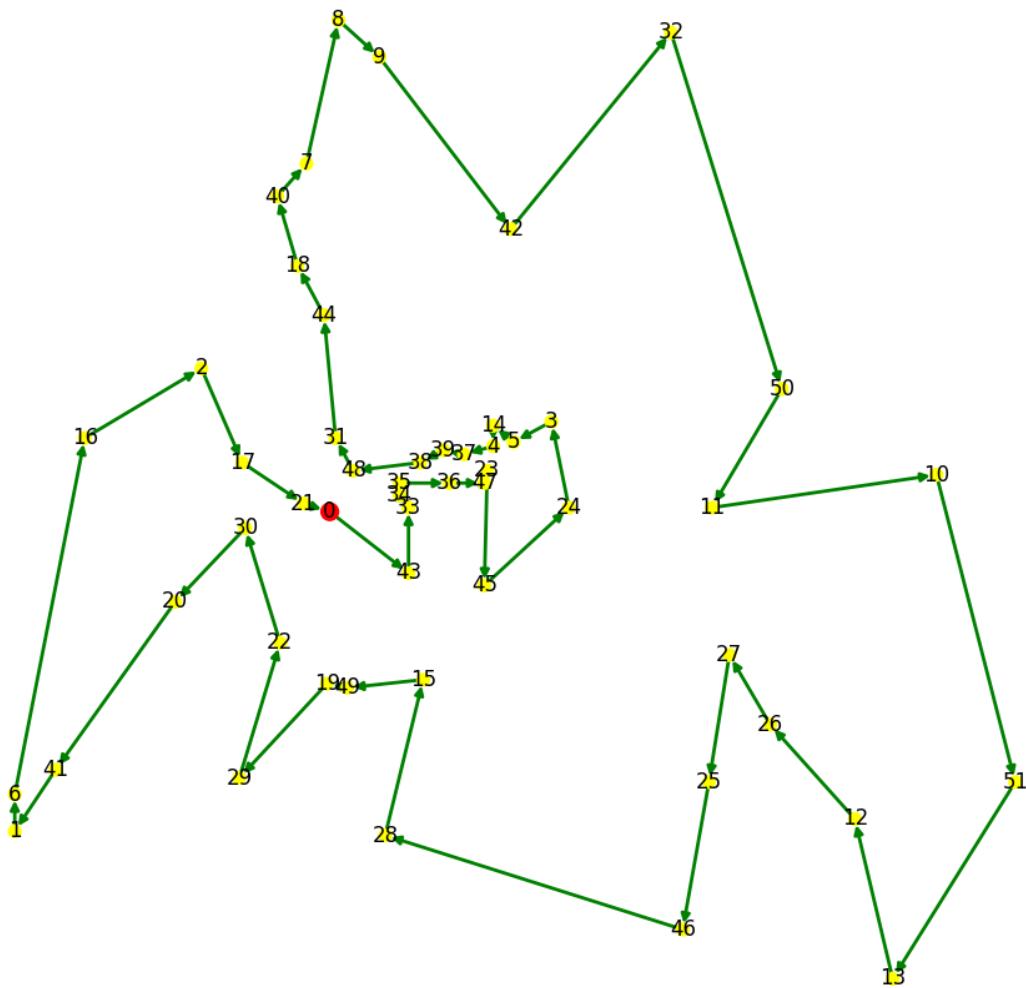
ALNS outputs

Berlin52

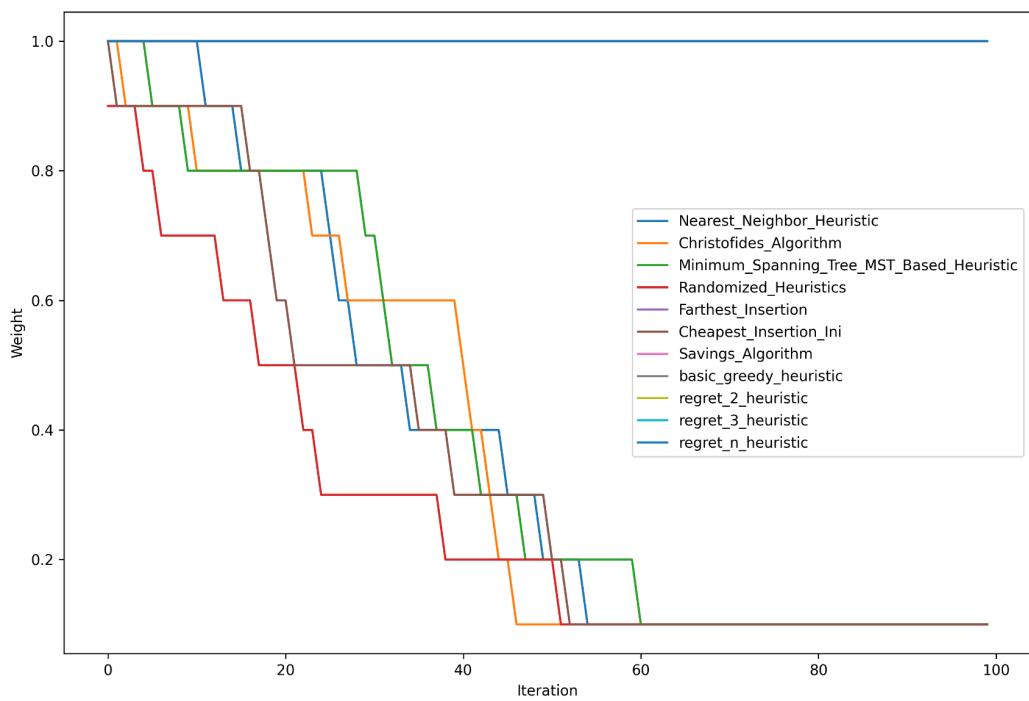
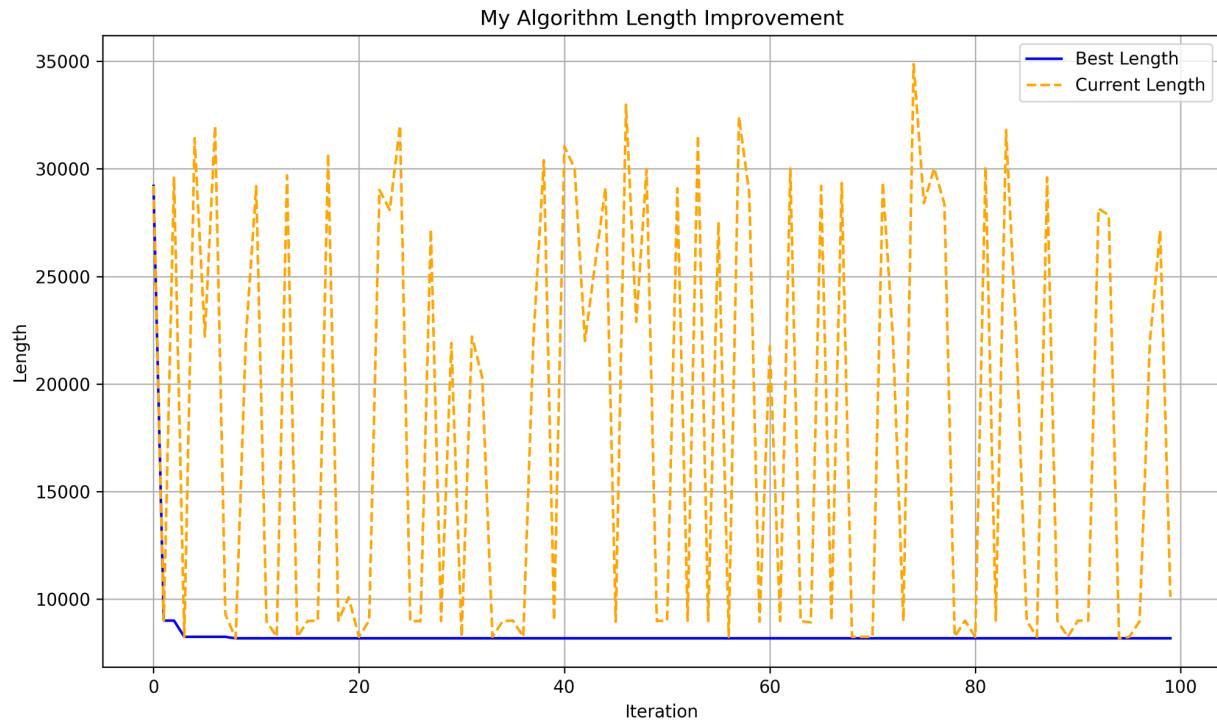
```
2023-12-11 14:53:46,703 - INFO - Iteration 100: Length of Tour = 10098
2023-12-11 14:53:46,703 - INFO - Best Tour: = [0, 43, 33, 34, 35, 36, 47, 23, 45, 24,
3, 5, 14, 4, 37, 39, 38, 48, 31, 44, 18, 40, 7, 8, 9, 42, 32, 50, 11, 10, 51, 13, 12,
26, 27, 25, 46, 28, 15, 49, 19, 29, 22, 30, 20, 41, 1, 6, 16, 2, 17, 21, 0]
2023-12-11 14:53:46,703 - INFO - Length of Best Tour: = 8179
```

ALNS outputs

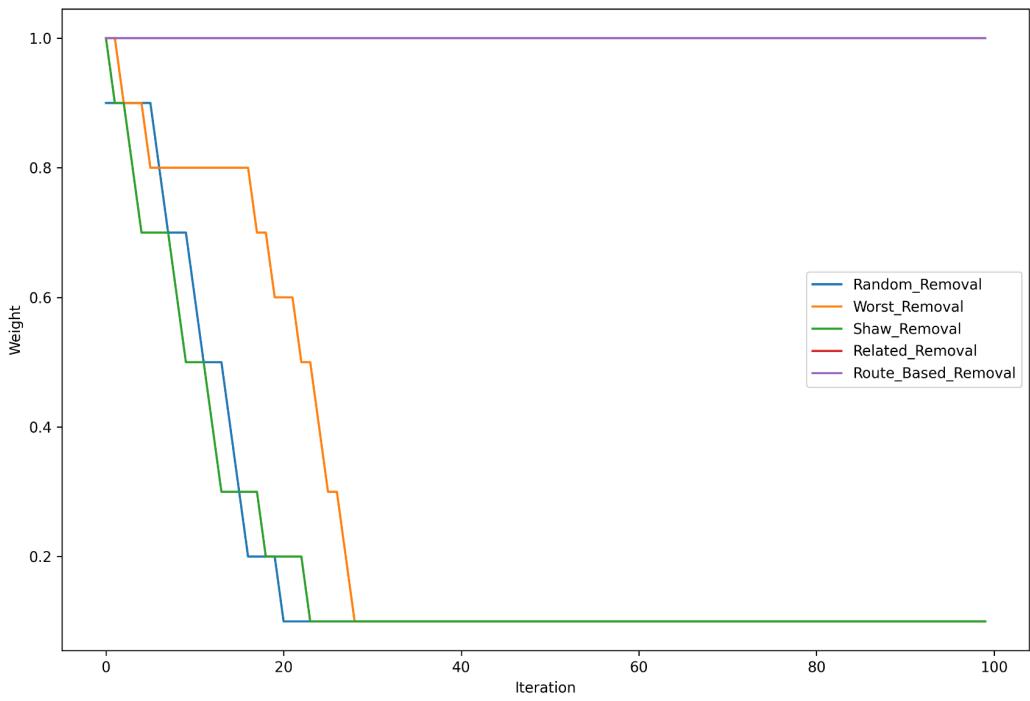
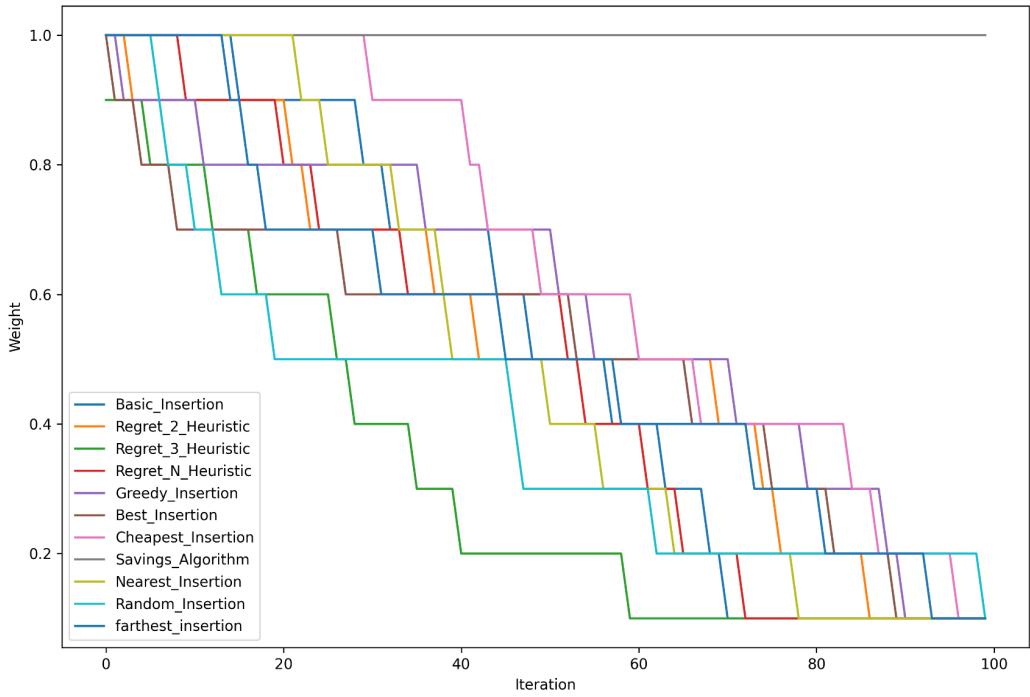
Graph with 52 nodes



ALNS outputs



ALNS outputs



ALNS outputs