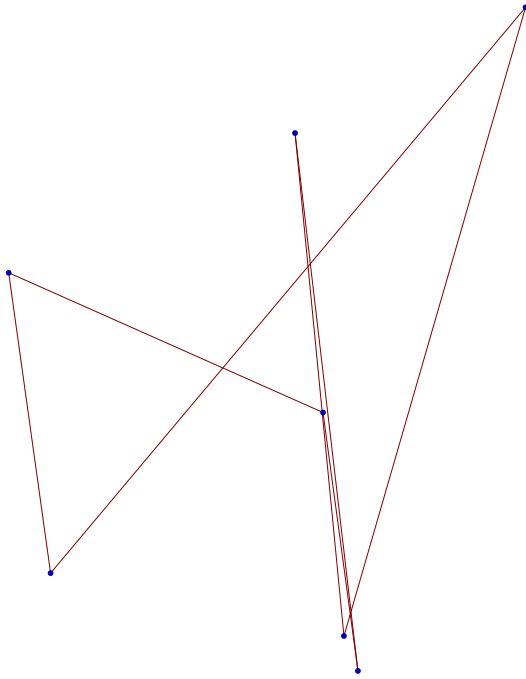


TSP using Brute Force [7, 13] vertices. TSP using Multithreaded
Simulated Annealing with these dataset converged to the optimal results :

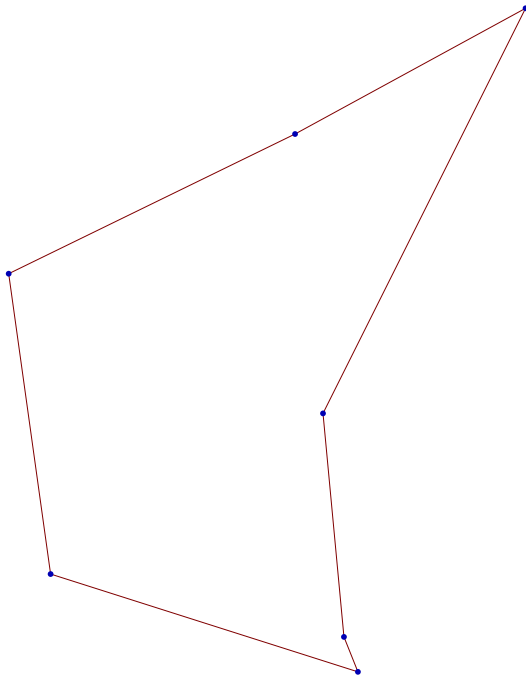
Start :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6, 6 → 0},  
  VertexCoordinateRules → {0 → {52, 78}, 1 → {59, 6},  
    2 → {85, 96}, 3 → {17, 15}, 4 → {11, 58}, 5 → {56, 38}, 6 → {61, 1}}]
```



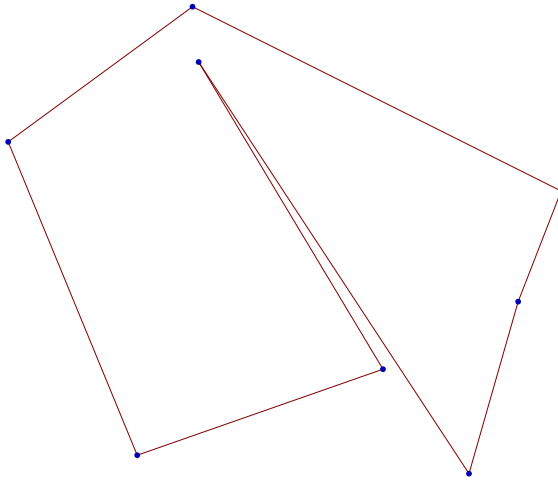
Optimal :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6, 6 → 0},
  VertexCoordinateRules → {0 → {59, 6}, 1 → {56, 38},
    2 → {85, 96}, 3 → {52, 78}, 4 → {11, 58}, 5 → {17, 15}, 6 → {61, 1}}]
```



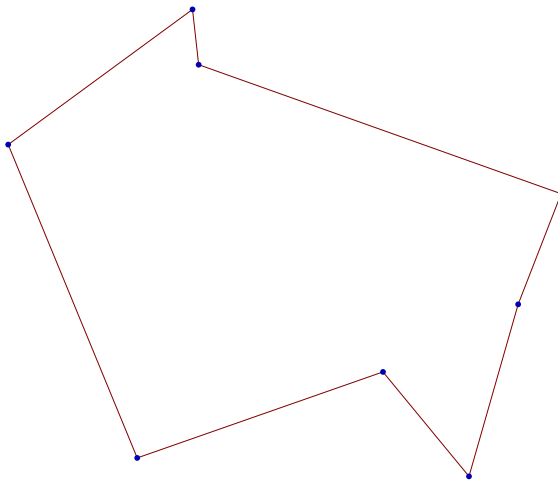
Start :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6, 6 → 7, 7 → 0},
  VertexCoordinateRules → {0 → {62, 23}, 1 → {22, 9}, 2 → {1, 60},
    3 → {31, 82}, 4 → {91, 52}, 5 → {84, 34}, 6 → {76, 6}, 7 → {32, 73}}]
```



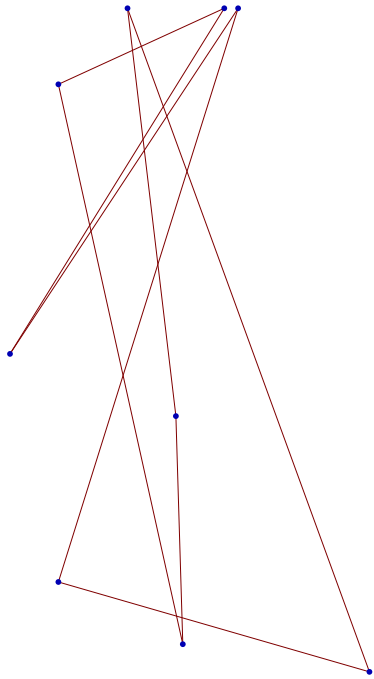
Optimal :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6, 6 → 7, 7 → 0},
  VertexCoordinateRules → {0 → {76, 6}, 1 → {62, 23}, 2 → {22, 9},
    3 → {1, 60}, 4 → {31, 82}, 5 → {32, 73}, 6 → {91, 52}, 7 → {84, 34}}]
```



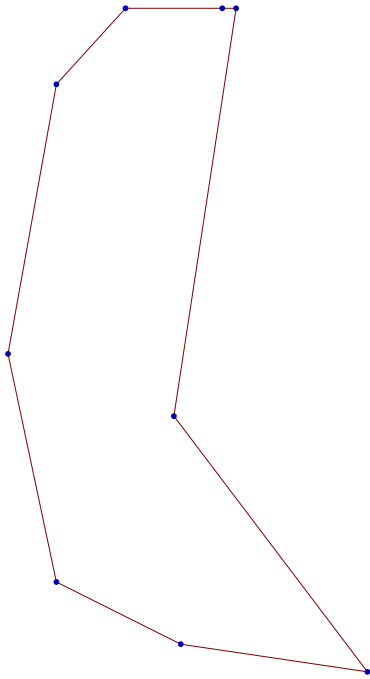
Start :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6, 6 → 7, 7 → 8, 8 → 0},  
  VertexCoordinateRules → {0 → {31, 98}, 1 → {66, 2}, 2 → {21, 15}, 3 → {47, 98},  
    4 → {14, 48}, 5 → {45, 98}, 6 → {21, 87}, 7 → {39, 6}, 8 → {38, 39}}]
```



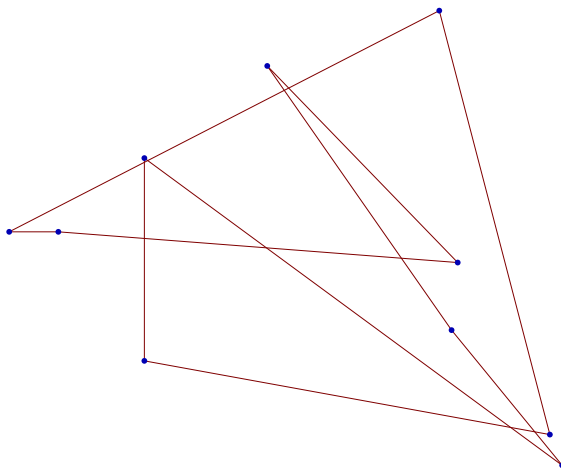
Optimal :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6, 6 → 7, 7 → 8, 8 → 0},
  VertexCoordinateRules → {0 → {31, 98}, 1 → {45, 98}, 2 → {47, 98},
    3 → {38, 39}, 4 → {66, 2}, 5 → {39, 6}, 6 → {21, 15}, 7 → {14, 48}, 8 → {21, 87}}]
```



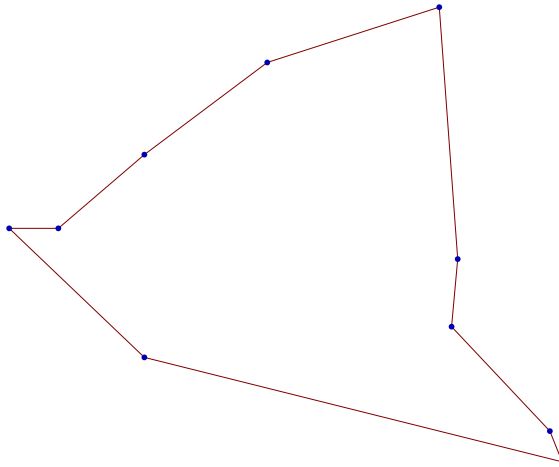
Start :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6, 6 → 7, 7 → 8, 8 → 9, 9 → 0},
  VertexCoordinateRules → {0 → {1, 59}, 1 → {71, 95}, 2 → {89, 26}, 3 → {23, 38},
    4 → {23, 71}, 5 → {91, 21}, 6 → {73, 43}, 7 → {43, 86}, 8 → {74, 54}, 9 → {9, 59}}]
```



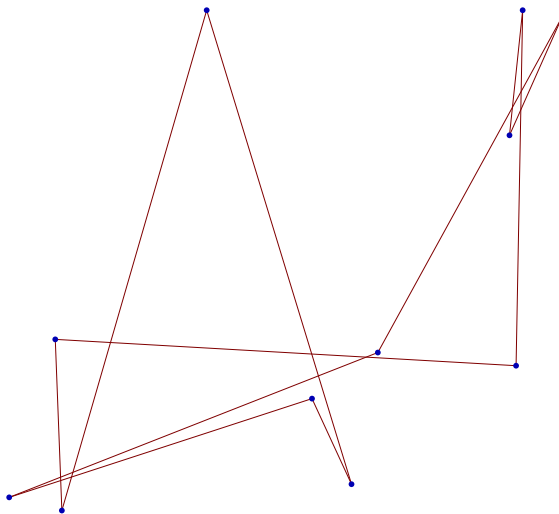
Optimal :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6, 6 → 7, 7 → 8, 8 → 9, 9 → 0},
  VertexCoordinateRules → {0 → {1, 59}, 1 → {9, 59}, 2 → {23, 71}, 3 → {43, 86},
    4 → {71, 95}, 5 → {74, 54}, 6 → {73, 43}, 7 → {89, 26}, 8 → {91, 21}, 9 → {23, 38}}]
```



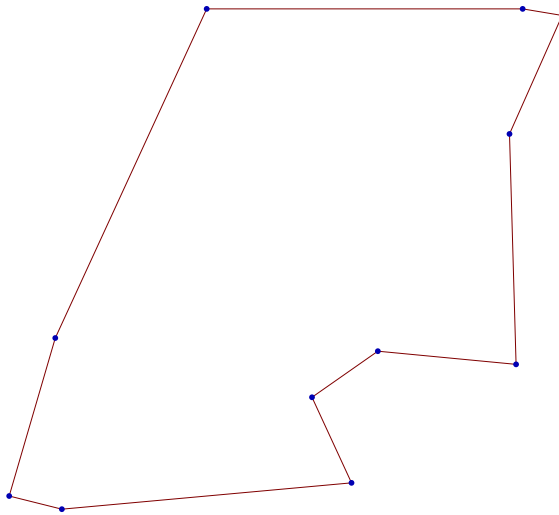
Start :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6, 6 → 7, 7 → 8, 8 → 9, 9 → 10, 10 → 0},
  VertexCoordinateRules → {0 → {92, 31}, 1 → {93, 85}, 2 → {91, 66}, 3 → {99, 84}, 4 → {71, 33},
    5 → {15, 11}, 6 → {61, 26}, 7 → {67, 13}, 8 → {45, 85}, 9 → {23, 9}, 10 → {22, 35}}]
```



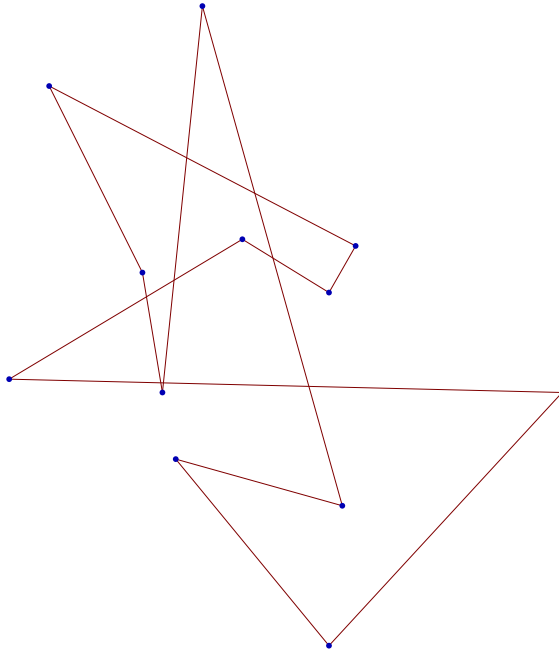
Optimal :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6, 6 → 7, 7 → 8, 8 → 9, 9 → 10, 10 → 0},  
  VertexCoordinateRules → {0 → {92, 31}, 1 → {91, 66}, 2 → {99, 84}, 3 → {93, 85}, 4 → {45, 85},  
    5 → {22, 35}, 6 → {15, 11}, 7 → {23, 9}, 8 → {67, 13}, 9 → {61, 26}, 10 → {71, 33}}]
```



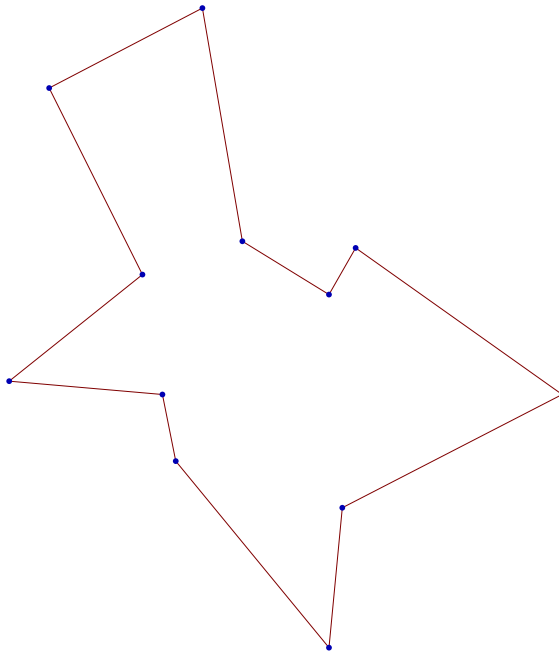
Start :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6,  
6 → 7, 7 → 8, 8 → 9, 9 → 10, 10 → 11, 11 → 0}, VertexCoordinateRules →  
{0 → {36, 63}, 1 → {1, 42}, 2 → {84, 40}, 3 → {49, 2}, 4 → {26, 30}, 5 → {51, 23},  
6 → {30, 98}, 7 → {24, 40}, 8 → {21, 58}, 9 → {7, 86}, 10 → {53, 62}, 11 → {49, 55}}]
```



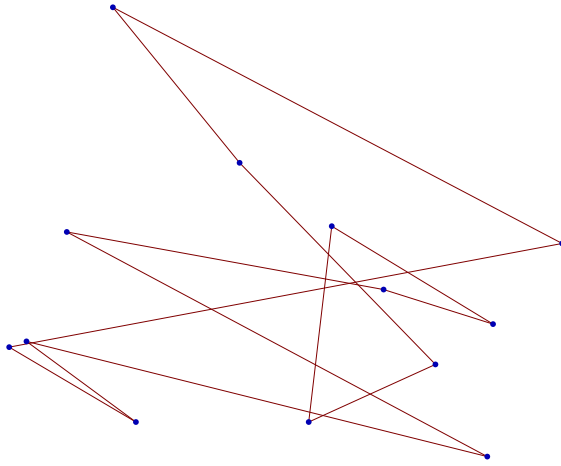
Optimal :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6,
  6 → 7, 7 → 8, 8 → 9, 9 → 10, 10 → 11, 11 → 0}, VertexCoordinateRules →
  {0 → {36, 63}, 1 → {30, 98}, 2 → {7, 86}, 3 → {21, 58}, 4 → {1, 42}, 5 → {24, 40},
    6 → {26, 30}, 7 → {49, 2}, 8 → {51, 23}, 9 → {84, 40}, 10 → {53, 62}, 11 → {49, 55}}]
```



Start :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6, 6 → 7,
  7 → 8, 8 → 9, 9 → 10, 10 → 11, 11 → 12, 12 → 0}, VertexCoordinateRules →
  {0 → {12, 43}, 1 → {85, 4}, 2 → {5, 24}, 3 → {24, 10}, 4 → {2, 23}, 5 → {98, 41}, 6 → {20, 82},
    7 → {42, 55}, 8 → {76, 20}, 9 → {54, 10}, 10 → {58, 44}, 11 → {86, 27}, 12 → {67, 33}}]
```



Optimal :

```
GraphPlot[{0 → 1, 1 → 2, 2 → 3, 3 → 4, 4 → 5, 5 → 6, 6 → 7,
  7 → 8, 8 → 9, 9 → 10, 10 → 11, 11 → 12, 12 → 0}, VertexCoordinateRules →
  {0 → {12, 43}, 1 → {5, 24}, 2 → {2, 23}, 3 → {24, 10}, 4 → {54, 10}, 5 → {85, 4}, 6 → {76, 20},
    7 → {86, 27}, 8 → {98, 41}, 9 → {67, 33}, 10 → {58, 44}, 11 → {42, 55}, 12 → {20, 82}}]
```

