
Algorithm 1 Bitonic TSP

Require: Distance function - $dist(p_1, p_2)$

Require: Input array $A[]$ consists of Point objects, with x and y fields.

Ensure: Input array $A[]$ is pre-sorted on x values.

```
1: function LEAST-BITONIC-PATH( $A[]$ ) ▷ Set of x-y points
2:    $LBP[n, n-1] \leftarrow dist(n-1, n)$ 
3:    $path[n-1, n] \leftarrow n$ 
4:   for  $i \leftarrow n-2$  to 1 do
5:      $min \leftarrow \infty$ 
6:     for  $k \leftarrow i+2$  to  $n$  do
7:       if  $min > LBP[i+1, k] + dist[i, k]$  then
8:          $min \leftarrow LBP[i+1, k] + dist(i, k)$ 
9:          $mink \leftarrow k$ 
10:      end if
11:    end for
12:     $LBP[i, i+1] \leftarrow min$ 
13:     $path[i, i+1] \leftarrow mink$ 
14:    for  $j = i+2$  to  $n$  do
15:       $LBP[i, j] \leftarrow LBP[i+1, j] + d(i, i+1)$ 
16:       $path[i, j] \leftarrow i+1$ 
17:    end for
18:  end for
19:   $LBP[1, 1] \leftarrow LBP[1, 2] + d(1, 2)$ 
20:   $path[1, 1] \leftarrow 2$ 
21: end function
```

Algorithm 2 PrintBitonic-TSP

```
1: function PRINTTSP( $path, i, j, n$ )
2:   if  $n \leq 0$  then
3:     return.
4:   end if
5:   if  $i \leq j$  then
6:      $k \leftarrow path[i, j]$ 
7:      $print(k)$ 
8:      $printTSP(path, k, j, n - 1)$ 
9:   else
10:     $k \leftarrow path[j, i]$ 
11:     $printTSP(path, i, k, n - 1)$ 
12:     $print(k)$ 
13:   end if
14: end function
```
