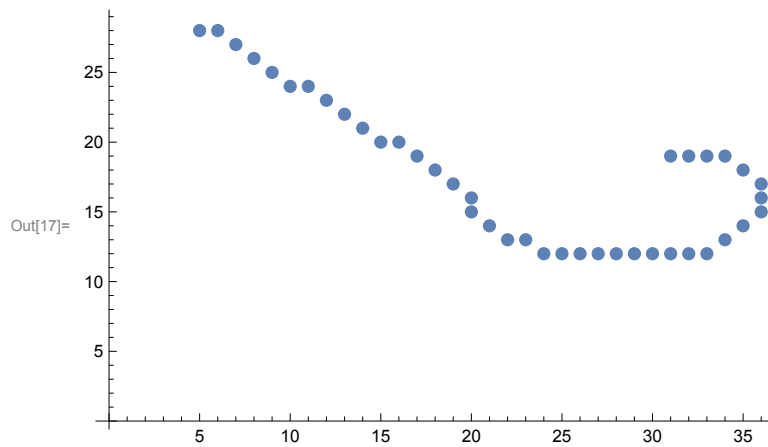


```
In[16]:= p = {{5, 28}, {6, 28}, {7, 27}, {8, 26}, {9, 25}, {10, 24}, {11, 24}, {12, 23}, {13, 22},
{14, 21}, {15, 20}, {16, 20}, {17, 19}, {18, 18}, {19, 17}, {20, 15}, {20, 16},
{21, 14}, {22, 13}, {23, 13}, {24, 12}, {25, 12}, {26, 12}, {27, 12}, {28, 12},
{29, 12}, {30, 12}, {31, 12}, {31, 19}, {32, 12}, {32, 19}, {33, 12}, {33, 19},
{34, 13}, {34, 19}, {35, 14}, {35, 18}, {36, 15}, {36, 16}, {36, 17}};
```

```
ListPlot[
p]
```



```
In[18]:= n = Length[p]
```

Out[18]= 40

```
In[19]:= f[i_] := EuclideanDistance[p[[i]], p[[i + 1]]];
For[i = 0, i < 10, i++,
Print[f[i]]]
```

1

$\sqrt{2}$

$\sqrt{2}$

$\sqrt{2}$

$\sqrt{2}$

1

$\sqrt{2}$

$\sqrt{2}$

$\sqrt{2}$

$\sqrt{2}$

```
In[21]:= f[i_] := EuclideanDistance[p[[i]], p[[i + 1]]];
For[i = 0, i < 20, i++,
If[f[i] ≤ 2, Print[f[i]], p[[i + 1]] = p[[i + 2]]]]
```

1

$\sqrt{2}$

$\sqrt{2}$

$\sqrt{2}$

$\sqrt{2}$

1

$\sqrt{2}$

$\sqrt{2}$

$\sqrt{2}$

$\sqrt{2}$

1

$\sqrt{2}$

$\sqrt{2}$

$\sqrt{2}$

0

0

1

$\sqrt{2}$

```

Block[{i}, i = 1;
  Label["begin1"];
  p[i + 1] = p[i + 2];
  Label["begin"];
  Print[p[i]]
  f[i_] := EuclideanDistance[p[[i]], p[[i + 1]]]
  If[f[i] >  $\sqrt{2}$ , Goto["begin1"], i++]
  If[i > 39, Goto["end"], Goto["begin"]];
  Label["end"];

```

Set::write : Tag List in

```

{{7, 27}, {6, 28}, {7, 27}, {8, 26}, {9, 25}, {10, 24}, {11, 24}, {12, 23}, {13, 22}, {14, 21}, {15, 20}, {16, 20}, {17, 19}, {31, 19}, {32, 19}, {
  33, 19}, {34, 19}, {18, 18}, {35, 18}, <<3>>, {36, 16}, {20, 15}, {36, 15}, {21, 14}, {35, 14}, {22, 13}, {23, 13}, {34, 13}, {24, 12},
  {25, 12}, {26, 12}, {27, 12}, {28, 12}, {29, 12}, {30, 12}, {31, 12}, {32, 12}, {33, 12}}[2] is Protected. >>

```

```

{{7, 27}, {6, 28}, {7, 27}, {8, 26}, {9, 25}, {10, 24}, {11, 24}, {12, 23},
  {13, 22}, {14, 21}, {15, 20}, {16, 20}, {17, 19}, {31, 19}, {32, 19}, {33, 19},
  {34, 19}, {18, 18}, {35, 18}, {19, 17}, {36, 17}, {20, 16}, {36, 16}, {20, 15},
  {36, 15}, {21, 14}, {35, 14}, {22, 13}, {23, 13}, {34, 13}, {24, 12}, {25, 12},
  {26, 12}, {27, 12}, {28, 12}, {29, 12}, {30, 12}, {31, 12}, {32, 12}, {33, 12}}[1]

```

Part::pkspec1 : The expression i_ cannot be used as a part specification. >>

Part::pkspec1 : The expression 1 + i_ cannot be used as a part specification. >>

SetDelayed::write : Tag Times in

```

Null EuclideanDistance[{{7, 27}, {6, 28}, {7, 27}, {8, 26}, {9, 25}, {10, 24}, {11, 24}, {12, 23}, {13, 22}, {14, 21}, {15, 20}, {16, 20}, {17
  , 19}, {31, 19}, {32, 19}, {33, 19}, {34, 19}, <<7>>, {36, 15}, {21, 14}, {35, 14}, {22, 13}, {23, 13}, {34, 13}, {24, 12}, {25, 12
  }, {26, 12}, {27, 12}, {28, 12}, {29, 12}, {30, 12}, {31, 12}, {32, 12}, {33, 12}}[[i_]], <<1>>]
  is Protected. >>

```

```

f[i_] := EuclideanDistance[p[[i]], p[[i + 1]]]

```

```

B = {3, 7, 2, 8, 9};

```

```

For[j = 0, j < Length[B] - 1, j++;

```

```

  If[B[[j]] < B[[j + 1]], j = j + 1, B[[j + 1]] = B[[j + 2]]]

```

In[3]:= B

Out[3]= {3, 7, 2, 8, 9}

In[5]:= bubbleSort = B //. {a___, b_, c_, d___} /; b > c -> {a, c, b, d}

Out[5]= {2, 3, 7, 8, 9}

In[8]:= bubbleSort = p //. {a___, b_, c_, d___} /; b > c -> {a, c, b, d}

Out[8]= {{5, 28}, {6, 28}, {7, 27}, {8, 26}, {9, 25}, {10, 24}, {11, 24}, {12, 23},
 {13, 22}, {14, 21}, {15, 20}, {16, 20}, {17, 19}, {19, 31}, {19, 32}, {19, 33},
 {19, 34}, {18, 18}, {18, 35}, {17, 19}, {17, 36}, {16, 20}, {16, 36}, {15, 20},
 {15, 36}, {14, 21}, {14, 35}, {13, 22}, {13, 23}, {13, 34}, {12, 24}, {12, 25},
 {12, 26}, {12, 27}, {12, 28}, {12, 29}, {12, 30}, {12, 31}, {12, 32}, {12, 33}}