QUIZ 4

COMP9021 PRINCIPLES OF PROGRAMMING

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$ python3 quiz_4.py
Enter four positive integers: 0 1 0 0
Here is how the x-coordinates of your points start:
   0
Here is how the y-coordinates of your points start:
   0

Here are the points, without duplicates, from highest to lowest,
 and from left to right for a given height:
  (0, 0)

All points fit in a rectangle of size 0,
 with (0, 0) as top left corner, and
 with (0, 0) as bottom right corner.

The maximum number of points that fit in a square window of size 0
 enclosed within the rectangle is 1.
The leftmost, topmost such window has (0, 0) as top left corner,
 and (0, 0) as bottom right corner.
$ python3 quiz_4.py
Enter four positive integers: 0 1 0 1
Here are the x-coordinates of your points:
   0
Here are the y-coordinates of your points:
   0

Here are the points, without duplicates, from highest to lowest,
 and from left to right for a given height:
  (0, 0)

All points fit in a rectangle of size 0,
 with (0, 0) as top left corner, and
 with (0, 0) as bottom right corner.

The maximum number of points that fit in a square window of size 1
 enclosed within the rectangle is 0.
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Date: Trimester 1, 2021.

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$ python3 quiz_4.py
Enter four positive integers: 0 2 5 0
Here is how the x-coordinates of your points start:
    1  1
Here is how the y-coordinates of your points start:
   -5 -1

Here are the points, without duplicates, from highest to lowest,
 and from left to right for a given height:
  (1, -1)
  (1, -5)

All points fit in a rectangle of size 0,
 with (1, -1) as top left corner, and
 with (1, -5) as bottom right corner.

The maximum number of points that fit in a square window of size 0
 enclosed within the rectangle is 1.
The leftmost, topmost such window has (1, -1) as top left corner,
 and (1, -1) as bottom right corner.
$ python3 quiz_4.py
Enter four positive integers: 0 2 5 2
Here is how the x-coordinates of your points start:
    1  1
Here is how the y-coordinates of your points start:
   -5 -1

Here are the points, without duplicates, from highest to lowest,
 and from left to right for a given height:
  (1, -1)
  (1, -5)

All points fit in a rectangle of size 0,
 with (1, -1) as top left corner, and
 with (1, -5) as bottom right corner.

The maximum number of points that fit in a square window of size 2
 enclosed within the rectangle is 0.
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$ python3 quiz_4.py
Enter four positive integers: 0 8 2 1
Here is how the x-coordinates of your points start:
    1  1 -2  0  2  1  1  0
Here is how the y-coordinates of your points start:
    1  0  2 -1  2 -1  0 -1

Here are the points, without duplicates, from highest to lowest,
 and from left to right for a given height:
  (-2, 2)
  (2, 2)
  (1, 1)
  (1, 0)
  (0, -1)
  (1, -1)

All points fit in a rectangle of size 12,
 with (-2, 2) as top left corner, and
 with (2, -1) as bottom right corner.

The maximum number of points that fit in a square window of size 1
 enclosed within the rectangle is 3.
The leftmost, topmost such window has (0, 0) as top left corner,
 and (1, -1) as bottom right corner.
$ python3 quiz_4.py
Enter four positive integers: 0 8 2 3
Here is how the x-coordinates of your points start:
    1  1 -2  0  2  1  1  0
Here is how the y-coordinates of your points start:
    1  0  2 -1  2 -1  0 -1

Here are the points, without duplicates, from highest to lowest,
 and from left to right for a given height:
  (-2, 2)
  (2, 2)
  (1, 1)
  (1, 0)
  (0, -1)
  (1, -1)

All points fit in a rectangle of size 12,
 with (-2, 2) as top left corner, and
 with (2, -1) as bottom right corner.

The maximum number of points that fit in a square window of size 3
 enclosed within the rectangle is 5.
The leftmost, topmost such window has (-2, 2) as top left corner,
 and (1, -1) as bottom right corner.
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```
$ python3 quiz_4.py
Enter four positive integers: 0 100 2 1
Here is how the x-coordinates of your points start:
    1  1 -2  0  2  1  1  0  1  0  2 -1  2 -1  0 -1 -2  2  0  2  2 -1  0 -2 -2  0
Here is how the y-coordinates of your points start:
    0  2 -1 -1  2  1  2  0  1  1  0 -2  0  2 -2  1  2  0 -1 -1 -2  0 -2 -1  0 -1

Here are the points, without duplicates, from highest to lowest,
 and from left to right for a given height:
  (-2, 2)
  (-1, 2)
  (0, 2)
  (1, 2)
  (2, 2)
  (-2, 1)
  (-1, 1)
  (0, 1)
  (1, 1)
  (2, 1)
  (-2, 0)
  (-1, 0)
  (0, 0)
  (1, 0)
  (2, 0)
  (-2, -1)
  (-1, -1)
  (0, -1)
  (1, -1)
  (2, -1)
  (-2, -2)
  (-1, -2)
  (0, -2)
  (1, -2)
  (2, -2)

All points fit in a rectangle of size 16,
 with (-2, 2) as top left corner, and
 with (2, -2) as bottom right corner.

The maximum number of points that fit in a square window of size 1
 enclosed within the rectangle is 4.
The leftmost, topmost such window has (-2, 2) as top left corner,
 and (-1, 1) as bottom right corner.
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```
$ python3 quiz_4.py
Enter four positive integers: 0 100 2 4
Here is how the x-coordinates of your points start:
    1  1 -2  0  2  1  1  0  1  0  2 -1  2 -1  0 -1 -2  2  0  2  2 -1  0 -2 -2  0
Here is how the y-coordinates of your points start:
    0  2 -1 -1  2  1  2  0  1  1  0 -2  0  2 -2  1  2  0 -1 -1 -2  0 -2 -1  0 -1

Here are the points, without duplicates, from highest to lowest,
 and from left to right for a given height:
  (-2, 2)
  (-1, 2)
  (0, 2)
  (1, 2)
  (2, 2)
  (-2, 1)
  (-1, 1)
  (0, 1)
  (1, 1)
  (2, 1)
  (-2, 0)
  (-1, 0)
  (0, 0)
  (1, 0)
  (2, 0)
  (-2, -1)
  (-1, -1)
  (0, -1)
  (1, -1)
  (2, -1)
  (-2, -2)
  (-1, -2)
  (0, -2)
  (1, -2)
  (2, -2)

All points fit in a rectangle of size 16,
 with (-2, 2) as top left corner, and
 with (2, -2) as bottom right corner.

The maximum number of points that fit in a square window of size 4
 enclosed within the rectangle is 25.
The leftmost, topmost such window has (-2, 2) as top left corner,
 and (2, -2) as bottom right corner.
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```
$ python3 quiz_4.py
Enter four positive integers: 12 11 5 4
Here is how the x-coordinates of your points start:
    2 -1  5  3  5  0 -3  1 -5  0  2
Here is how the y-coordinates of your points start:
   -1  5  2  4 -2  3 -5  5  4 -3  2

Here are the points, without duplicates, from highest to lowest,
 and from left to right for a given height:
  (-1, 5)
  (1, 5)
  (-5, 4)
  (3, 4)
  (0, 3)
  (2, 2)
  (5, 2)
  (2, -1)
  (5, -2)
  (0, -3)
  (-3, -5)

All points fit in a rectangle of size 100,
 with (-5, 5) as top left corner, and
 with (5, -5) as bottom right corner.

The maximum number of points that fit in a square window of size 4
 enclosed within the rectangle is 5.
The leftmost, topmost such window has (-1, 5) as top left corner,
 and (3, 1) as bottom right corner.
```

```
$ python3 quiz_4.py
Enter four positive integers: 23 14 4 5
Here is how the x-coordinates of your points start:
    0 -3 -4  0  2  2  4  1 -2 -1  0  3 -4 -1
Here is how the y-coordinates of your points start:
    3 -4 -3 -3  3  2 -4  4  2  1 -4 -1 -4  1

Here are the points, without duplicates, from highest to lowest,
 and from left to right for a given height:
  (1, 4)
  (0, 3)
  (2, 3)
  (-2, 2)
  (2, 2)
  (-1, 1)
  (3, -1)
  (-4, -3)
  (0, -3)
  (-4, -4)
  (-3, -4)
  (0, -4)
  (4, -4)

All points fit in a rectangle of size 64,
 with (-4, 4) as top left corner, and
 with (4, -4) as bottom right corner.

The maximum number of points that fit in a square window of size 5
 enclosed within the rectangle is 7.
The leftmost, topmost such window has (-2, 4) as top left corner,
 and (3, -1) as bottom right corner.
```

```
$ python3 quiz_4.py
Enter four positive integers: 100 11 5 3
Here is how the x-coordinates of your points start:
   -3  2  2 -3  1  0  1  3 -4  3 -4
Here is how the y-coordinates of your points start:
   -4  2 -1 -5  5  5 -2  0 -2 -1 -2

Here are the points, without duplicates, from highest to lowest,
 and from left to right for a given height:
  (0, 5)
  (1, 5)
  (2, 2)
  (3, 0)
  (2, -1)
  (3, -1)
  (-4, -2)
  (1, -2)
  (-3, -4)
  (-3, -5)

All points fit in a rectangle of size 70,
 with (-4, 5) as top left corner, and
 with (3, -5) as bottom right corner.

The maximum number of points that fit in a square window of size 3
 enclosed within the rectangle is 4.
The leftmost, topmost such window has (0, 2) as top left corner,
 and (3, -1) as bottom right corner.
```