Quiz 8

COMP9021 Principles of Programming

2017 session 2

Sample outputs

We print out a list (we pass a list as argument to print()).
So this list is printed out on one line.

```
$ python3 quiz_8.py
Enter five integers: 0 2 0 0 0
Here is the grid that has been generated:
     1  1  0  1  1  1  1  1  1  0
     0  1  0  0  1  0  1  0  0  1
     1  0  1  1  1  0  1  1  1  0
     0  0  1  0  1  1  0  1  0  0
     0  0  0  1  0  0  1  1  0  1
     1  0  1  0  1  1  0  1  1  0
     1  0  0  0  0  1  1  0  0  0
     0  0  0  1  1  0  0  1  1  1
     1  1  0  1  0  1  1  0  0  0
     1  0  0  1  0  1  1  0  0  0


There is no way to get a sum of 0 starting from (0, 0)
$ python3 quiz_8.py
Enter five integers: 0 2 0 0 4
Here is the grid that has been generated:
     1  1  0  1  1  1  1  1  1  0
     0  1  0  0  1  0  1  0  0  1
     1  0  1  1  1  0  1  1  1  0
     0  0  1  0  1  1  0  1  0  0
     0  0  0  1  0  0  1  1  0  1
     1  0  1  0  1  1  0  1  1  0
     1  0  0  0  0  1  1  0  0  0
     0  0  0  1  1  0  0  1  1  1
     1  1  0  1  0  1  1  0  0  0
     1  0  0  1  0  1  1  0  0  0


With North as initial direction, and exploring the space clockwise,
the path yielding a sum of 4 starting from (0, 0) is:

[(0, 0), (0, 1), (0, 2), (0, 3), (0, 4)]
```
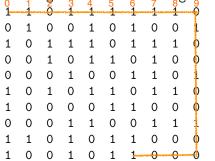
```
$ python3 quiz_8.py
Enter five integers: 0 2 0 0 12
Here is the grid that has been generated:
    0 1 2 3 4 5 6 7 8 9
  1 1 0 1 1 1 1 1 1 0
  0 1 0 0 1 0 1 0 0 1
  1 0 1 1 1 0 1 1 1 0
  0 0 1 0 1 1 0 1 0 0
  0 0 0 1 0 0 1 1 0 1
  1 0 1 0 1 1 0 1 1 0
  1 0 0 0 0 1 1 0 0 0
  0 0 0 1 1 0 0 1 1
  1 1 0 1 0 1 1 0 0 0
  1 0 0 1 0 1 1 0 0 0

With North as initial direction, and exploring the space clockwise,
the path yielding a sum of 12 starting from (0, 0) is:
[(0, 0), (0, 1), (0, 2), (0, 3), (0, 4), (0, 5), (0, 6), (0, 7), (0, 8), (0, 9),
 (1, 9), (2, 9), (3, 9), (4, 9), (5, 9), (6, 9), (7, 9), (8, 9), (9, 9), (9, 8),
 (9, 7), (9, 6)]
$ python3 quiz_8.py
Enter five integers: 0 2 0 0 50
Here is the grid that has been generated:
  1 1 0 1 1 1 1 1 1 0
  0 1 0 0 1 0 1 0 0 1
  1 0 1 1 1 0 1 1 1 0
  0 0 1 0 1 1 0 1 0 0
  0 0 0 1 0 0 1 1 0 1
  1 0 1 0 1 1 0 1 1 0
  1 0 0 0 0 1 1 0 0 0
  0 0 0 1 1 0 0 1 1
  1 1 0 1 0 1 1 0 0 0
  1 0 0 1 0 1 1 0 0 0

With North as initial direction, and exploring the space clockwise,
the path yielding a sum of 50 starting from (0, 0) is:
[(0, 0), (0, 1), (0, 2), (0, 3), (0, 4), (0, 5), (0, 6), (0, 7), (0, 8), (0, 9),
 (1, 9), (2, 9), (3, 9), (4, 9), (5, 9), (6, 9), (7, 9), (8, 9), (9, 9), (9, 8),
 (9, 7), (9, 6), (9, 5), (9, 4), (9, 3), (9, 2), (9, 1), (9, 0), (8, 0), (7, 0),
 (6, 0), (5, 0), (4, 0), (3, 0), (2, 0), (1, 0), (1, 1), (1, 2), (1, 3), (1, 4),
 (1, 5), (1, 6), (1, 7), (1, 8), (2, 8), (3, 8), (4, 8), (5, 8), (6, 8), (7, 8),
 (8, 8), (8, 7), (8, 6), (8, 5), (8, 4), (8, 3), (8, 2), (8, 1), (7, 1), (6, 1),
 (5, 1), (4, 1), (3, 1), (2, 1), (2, 2), (2, 3), (2, 4), (2, 5), (2, 6), (2, 7),
 (3, 7), (4, 7), (5, 7), (6, 7), (7, 7), (7, 6), (7, 5), (7, 4), (7, 3), (7, 2),
 (6, 2), (5, 2), (4, 2), (3, 2), (3, 3), (3, 4), (3, 5), (3, 6), (4, 6), (5, 6),
 (6, 6), (6, 5), (6, 4), (6, 3), (5, 3), (4, 3), (4, 4), (4, 5), (5, 5), (5, 4)]
```
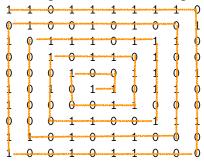
```
$ python3 quiz_8.py
Enter five integers: 0 10 2 7 20
Here is the grid that has been generated:
      6  6  0  4  8  7  6  4  7  5
      9  3  8  2  4  2  1  9  4  8
      9  2  4  1  1  5  7  8  1  5
      6  5  9  3  8  7  7  8  4  0
      8  0  1  6  0  9  7  5  3  5
      1  3  9  3  3  2  8  7  1  1
      5  8  7  1  4  8  4  1  8  5
      8  3  9  8  9  4  7  1  9  6
      5  9  3  4  2  3  2  0  9  4
      7  1  1  2  2  0  1  8  6  8

With North as initial direction, and exploring the space clockwise,
the path yielding a sum of 20 starting from (2, 7) is:
 [(2, 7), (1, 7), (1, 6), (1, 5)]
Enter five integers: 0 10 2 7 52
Here is the grid that has been generated:
      6  6  0  4  8  7  6  4  7  5
      9  3  8  2  4  2  1  9  4  8
      9  2  4  1  1  5  7  8  1  5
      6  5  9  3  8  7  7  8  4  0
      8  0  1  6  0  9  7  5  3  5
      1  3  9  3  3  2  8  7  1  1
      5  8  7  1  4  8  4  1  8  5
      8  3  9  8  9  4  7  1  9  6
      5  9  3  4  2  3  2  0  9  4
      7  1  1  2  2  0  1  8  6  8

With North as initial direction, and exploring the space clockwise,
the path yielding a sum of 52 starting from (2, 7) is:
 [(2, 7), (1, 7), (0, 7), (0, 8), (0, 9), (1, 9), (2, 9), (3, 9), (4, 9), (5, 9)]
```

```
$ python3 quiz_8.py
Enter five integers: 0 6 9 5 11
Here is the grid that has been generated:
     3  3  0  2  4  3  3  2  3  2
     4  1  4  1  2  1  0  4  2  4
     5  4  1  2  0  5  0  5  2  3
     4  0  2  3  2  4  5  1  4  3
     3  4  2  0  4  0  0  5  3  5
     5  5  0  4  3  2  1  5  2  5
     0  1  4  1  1  1  4  3  0  0
     2  4  3  0  2  4  2  5  0  4
     2  4  1  4  4  4  2  3  0  4
     3  2  4  1  2  1  1  1  0  4

With North as initial direction, and exploring the space clockwise,
the path yielding a sum of 11 starting from (9, 5) is:
[(9, 5), (8, 5), (7, 5), (6, 5), (6, 4)]
$ python3 quiz_8.py
Enter five integers: 0 6 9 5 100
Here is the grid that has been generated:
     3  3  0  2  4  3  3  2  3  2
     4  1  4  1  2  1  0  4  2  4
     5  4  1  2  0  5  0  5  2  3
     4  0  2  3  2  4  5  1  4  3
     3  4  2  0  4  0  0  5  3  5
     5  5  0  4  3  2  1  5  2  5
     0  1  4  1  1  1  4  3  0  0
     2  4  3  0  2  4  2  5  0  4
     2  4  1  4  4  4  2  3  0  4
     3  2  4  1  2  1  1  1  0  4

With North as initial direction, and exploring the space clockwise,
the path yielding a sum of 100 starting from (9, 5) is:
[(9, 5), (8, 5), (7, 5), (6, 5), (5, 5), (4, 5), (3, 5), (2, 5), (1, 5), (0, 5),
 (0, 6), (0, 7), (0, 8), (0, 9), (1, 9), (2, 9), (3, 9), (4, 9), (5, 9), (6, 9),
 (7, 9), (8, 9), (9, 9), (9, 8), (9, 7), (9, 6), (8, 6), (7, 6), (6, 6), (5, 6),
 (4, 6), (3, 6), (2, 6), (1, 6), (1, 7), (1, 8), (2, 8), (3, 8), (4, 8), (5, 8)]
```