Quiz 6

COMP9021 Principles of Programming

2015 session 1

Sample outputs

```
$ python quiz6.py
Enter 7 integers,
  the second and third ones being nonnegative,
  the last 4 beeing between 0 and 9: 0 0 0 2 0 8 4
Here is the grid that has been generated:
      0  0  0  0  0  0  0  0  0  0
      0  0  0  0  0  0  0  0  0  0
      0  0  0  0  0  0  0  0  0  0
      0  0  0  0  0  0  0  0  0  0
      0  0  0  0  0  0  0  0  0  0
      0  0  0  0  0  0  0  0  0  0
      0  0  0  0  0  0  0  0  0  0
      0  0  0  0  0  0  0  0  0  0
      0  0  0  0  0  0  0  0  0  0
      0  0  0  0  0  0  0  0  0  0

No path of length 0 connects (2, 0) to (8, 4)
$ python quiz6.py
Enter 7 integers,
  the second and third ones being nonnegative,
  the last 4 beeing between 0 and 9: 0 1000 0 3 2 3 2
Here is the grid that has been generated:
      1  1  1  1  1  1  1  1  1  1
      1  1  1  1  1  1  1  1  1  1
      1  1  1  1  1  1  1  1  1  1
      1  1  1  1  1  1  1  1  1  1
      1  1  1  1  1  1  1  1  1  1
      1  1  1  1  1  1  1  1  1  1
      1  1  1  1  1  1  1  1  1  1
      1  1  1  1  1  1  1  1  1  1
      1  1  1  1  1  1  1  1  1  1
      1  1  1  1  1  1  1  1  1  1

Number of paths of length 0 that connect (3, 2) to (3, 2): 1
```

```
$ python quiz6.py
Enter 7 integers,
  the second and third ones being nonnegative,
  the last 4 beeing between 0 and 9: 0 1 6 0 3 3 2
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

Number of paths of length 6 that connect (0, 3) to (3, 2): 1
$ python quiz6.py
Enter 7 integers,
  the second and third ones being nonnegative,
  the last 4 beeing between 0 and 9: 12 2 4 0 0 1 3
Here is the grid that has been generated:
      1  1  1  1  1  1  0  1  0  1
      1  1  1  1  1  1  0  1  0  1
      1  0  1  1  0  1  0  0  1  0
      0  1  1  1  1  1  0  0  0  1
      1  0  0  1  1  0  1  1  0  1
      1  1  1  0  1  0  1  0  1  0
      1  1  1  1  1  1  1  1  1  1
      0  1  1  0  0  1  1  1  1  1
      1  1  1  0  1  0  1  1  1  1
      1  1  0  0  1  1  0  1  0  0

Number of paths of length 4 that connect (0, 0) to (1, 3): 4
```

```
$ python quiz6.py
Enter 7 integers,
  the second and third ones being nonnegative,
  the last 4 beeing between 0 and 9: 8 1 10 0 1 1 6
Here is the grid that has been generated:
      0  1  1  0  0  0  0  0  0  0
      1  0  1  1  1  1  1  0  1  0
      1  0  0  1  1  1  1  0  1  0
      0  1  1  0  0  1  0  0  1  0
      0  0  0  1  0  0  1  1  1  1
      1  0  0  0  1  1  1  0  1  0
      1  1  0  0  1  0  0  1  1  0
      1  0  1  1  1  1  1  0  1  0
      0  0  0  0  1  0  0  1  1  0
      1  0  0  1  1  1  1  0  0  1

Number of paths of length 10 that connect (0, 1) to (1, 6): 1
$ python quiz6.py
Enter 7 integers,
  the second and third ones being nonnegative,
  the last 4 beeing between 0 and 9: 8 1 7 0 1 3 5
Here is the grid that has been generated:
      0  1  1  0  0  0  0  0  0  0
      1  0  1  1  1  1  1  0  1  0
      1  0  0  1  1  1  1  0  1  0
      0  1  1  0  0  1  0  0  1  0
      0  0  0  1  0  0  1  1  1  1
      1  0  0  0  1  1  1  0  1  0
      1  1  0  0  1  0  0  1  1  0
      1  0  1  1  1  1  1  0  1  0
      0  0  0  0  1  0  0  1  1  0
      1  0  0  1  1  1  1  0  0  1

Number of paths of length 7 that connect (0, 1) to (3, 5): 3
```

```
$ python quiz6.py
Enter 7 integers,
  the second and third ones being nonnegative,
  the last 4 beeing between 0 and 9: 12 2 9 9 7 4 7
Here is the grid that has been generated:
      1  1  1  1  1  1  0  1  0  1
      1  1  1  1  1  1  0  1  0  1
      1  0  1  1  0  1  0  0  1  0
      0  1  1  1  1  1  0  0  0  1
      1  0  0  1  1  0  1  1  0  1
      1  1  1  0  1  0  1  0  1  0
      1  1  1  1  1  1  1  1  1  1
      0  1  1  0  0  1  1  1  1  1
      1  1  1  0  1  0  1  1  1  1
      1  1  0  0  1  1  0  1  0  0

Number of paths of length 9 that connect (9, 7) to (4, 7): 7
$ python quiz6.py
Enter 7 integers,
  the second and third ones being nonnegative,
  the last 4 beeing between 0 and 9: 12 2 11 0 0 5 4
Here is the grid that has been generated:
      1  1  1  1  1  1  0  1  0  1
      1  1  1  1  1  1  0  1  0  1
      1  0  1  1  0  1  0  0  1  0
      0  1  1  1  1  1  0  0  0  1
      1  0  0  1  1  0  1  1  0  1
      1  1  1  0  1  0  1  0  1  0
      1  1  1  1  1  1  1  1  1  1
      0  1  1  0  0  1  1  1  1  1
      1  1  1  0  1  0  1  1  1  1
      1  1  0  0  1  1  0  1  0  0

Number of paths of length 11 that connect (0, 0) to (5, 4): 32
```

```
$ python quiz6.py
Enter 7 integers,
  the second and third ones being nonnegative,
  the last 4 beeing between 0 and 9: 5 4 9 1 1 1 9
Here is the grid that has been generated:
      1  1  1  1  0  1  1  0  1  0
      1  1  1  1  1  0  1  1  0  1
      1  1  1  1  1  0  1  1  1  1
      1  1  0  0  1  1  1  1  1  1
      1  1  1  1  1  1  1  0  1  1
      1  1  1  0  1  1  1  1  0  1
      1  0  1  1  1  1  1  1  1  1
      1  0  1  0  1  1  0  1  1  1
      1  1  0  1  0  1  1  1  0  1
      1  1  1  1  1  1  1  0  1  1

No path of length 9 connects (1, 1) to (1, 9)
$ python quiz6.py
Enter 7 integers,
  the second and third ones being nonnegative,
  the last 4 beeing between 0 and 9: 5 4 20 0 0 9 9
Here is the grid that has been generated:
      1  1  1  1  0  1  1  0  1  0
      1  1  1  1  1  0  1  1  0  1
      1  1  1  1  1  0  1  1  1  1
      1  1  0  0  1  1  1  1  1  1
      1  1  1  1  1  1  1  0  1  1
      1  1  1  0  1  1  1  1  0  1
      1  0  1  1  1  1  1  1  1  1
      1  0  1  0  1  1  0  1  1  1
      1  1  0  1  0  1  1  1  0  1
      1  1  1  1  1  1  1  0  1  1

Number of paths of length 20 that connect (0, 0) to (9, 9): 4226
```