Codility_

CodeCheck Report: trainingPUJPPW-KSS

Test Name:

Check out Codility training tasks

Summary Timeline

Tasks summary

Task		Time spent	Score
NumberSolitaire Python	⚠	7 min	100%

Total score

100%

Tasks Details

		Task Score	Correctness	Performance
Medium	1. **NumberSolitaire** In a given array, find the subset of maximal sum in which the distance between consecutive elements is at most 6.	100%	100%	100%

Task description

A game for one player is played on a board consisting of N consecutive squares, numbered from 0 to N − 1. There is a number written on each square. A non-empty array A of N integers contains the numbers written on the squares. Moreover, some squares can be marked during the game.

At the beginning of the game, there is a pebble on square number 0 and this is the only square on the board which is marked. The goal of the game is to move the pebble to square number N − 1.

During each turn we throw a six-sided die, with numbers from 1 to 6 on its faces, and consider the number K, which shows on the upper face after the die comes to rest. Then

Solution

Programming language used:	Python	
Total time used:	7 minutes	?
Effective time used:	7 minutes	?
Notes:	*not defined yet*	

Task timeline ?

we move the pebble standing on square number I to square number I + K, providing that square number I + K exists. If square number I + K does not exist, we throw the die again until we obtain a valid move. Finally, we mark square number I + K.

After the game finishes (when the pebble is standing on square number N − 1), we calculate the result. The result of the game is the sum of the numbers written on all marked squares.

For example, given the following array:

```
A[0] = 1
A[1] = -2
A[2] = 0
A[3] = 9
A[4] = -1
A[5] = -2
```

one possible game could be as follows:

- the pebble is on square number 0, which is marked;
- we throw 3; the pebble moves from square number 0 to square number 3; we mark square number 3;
- we throw 5; the pebble does not move, since there is no square number 8 on the board;
- we throw 2; the pebble moves to square number 5; we mark this square and the game ends.

The marked squares are 0, 3 and 5, so the result of the game is 1 + 9 + (−2) = 8. This is the maximal possible result that can be achieved on this board.

Write a function:

```
def solution(A)
```

that, given a non-empty array A of N integers, returns the maximal result that can be achieved on the board represented by array A.

For example, given the array

```
A[0] = 1
A[1] = -2
A[2] = 0
A[3] = 9
A[4] = -1
A[5] = -2
```

the function should return 8, as explained above.

Write an **efficient** algorithm for the following assumptions:

- N is an integer within the range [2..100,000];
- each element of array A is an integer within the range [−10,000..10,000].

13:15:21 13:21:25

Code: 13:21:25 UTC, py, final, score: **100**

show code in pop-up

```
# you can write to stdout for debugging p
# print("this is a debug message")

def solution(A):
    # Implement your solution here
    # pass
    N = len(A)
    max_result = [float('-inf')] * N
    max_result[0] = A[0]

    for i in range(N):
        for j in range(1, 7):
            if i + j < N:
                max_result[i + j] = max(m

    return max_result[N - 1]

```

Analysis summary

The solution obtained perfect score.

Analysis

Detected time complexity: **O(N)**

collapse all **Example tests**

▼ example ✔ OK

example test

1. 0.012 s **OK**

expand all **Correctness tests**

▼ extreme ✔ OK

two or three fields

1. 0.012 s **OK**
2. 0.012 s **OK**
3. 0.012 s **OK**
4. 0.012 s **OK**

▼ simple ✔ OK

simple test

1. 0.012 s **OK**
2. 0.012 s **OK**
3. 0.012 s **OK**

▼ medium_all_negative ✔ **OK**
all values negative, length = ~1,000

1. 0.016 s **OK**

▶ medium_monotonic ✔ **OK**
monotonic sequence, length = ~1,000

▶ medium_random ✔ **OK**
random sequence of values, length = ~1,000

expand all **Performance tests**

▶ big_all_negative ✔ **OK**
all values negative, length = ~100,000

▶ big_random ✔ **OK**
random sequence of values, length = ~100,000

▶ extreme_answers ✔ **OK**
maximal and minimal answers