# Report1

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1.

when a = 10, b = 5, c = 1，the output is 5

2.

For a list: list1=[1,2,3,4,5,6,32,56,87,65].

The value of continuous ceiling function is

[1, 5, 7, 13, 15, 17, 99, 171, 265, 197]

3.不会做，没什么思路。

4.

4.1 example：when N=5, the array is created，[4. 8. 2. 3. 6.]

4.2.

4.3 Because N from 1 to 100 needs too much time to process,so I only

choose N from 1 to 24.

The Total_sum_averages is

```
[6.0, 16.5, 28.0, 82.5, 117.8, 199.5, 453.57142857142856, 669.375, 2668.5555555555557, 4398.900000000001, 8932.363636363636, 16721.25, 42215.153846153
844, 64361.78571428572, 117961.20000000001, 368634.375, 516573.9411764706, 1048572.0, 2235118.263157895, 4771016.25, 11284669.666666666, 18111762.9545
45453, 41578312.95652174, 74099366.25]
```

The plot:

Bar Chart of My List
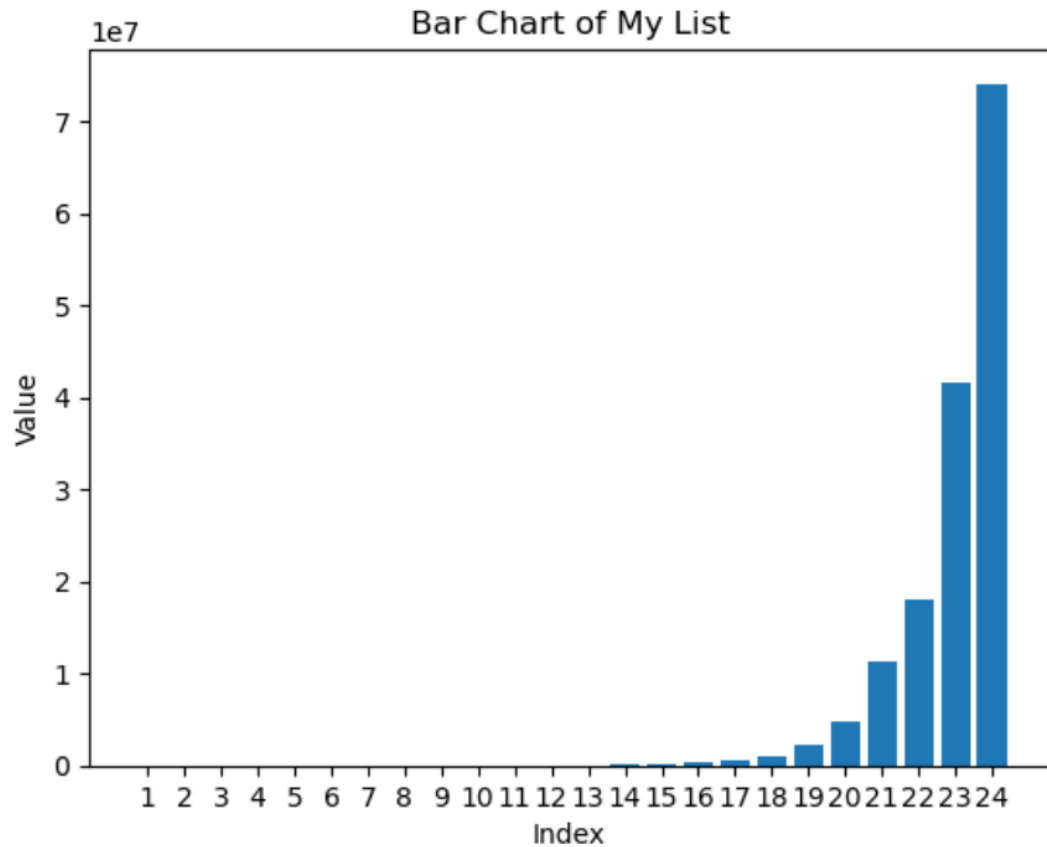
The value increases exponientially.

5.

5.1example:3rows,4cols

```
[[1. 0. 1. 1.]
 [1. 0. 0. 1.]
 [0. 0. 1. 1.]]
```

The matrix

5.2

5.3

Because run Count_path for 1000 times for the matrix of 10rows and 8cols needs too much time to run, so I change the matrix lower, which is5 rows and 5cols, it can run faster.

The results is : the mean of total number of paths from the 1000 runs is

0.584