

## 1. Flowchart

结果:

None

## 2. Continuous ceiling function

结果:

请输入列表元素（用空格分隔）: 1 2 3

[1, 5, 7]

## 3. Dice rolling

3.1

结果:

10 个骰子总和为 25 的方法数: 85228

3.2

结果:

最大值出现在  $x = 35$

有 4395456 种方式

## 4. Dynamic programming

4.1

结果:

生成 10 个随机数:

[9, 8, 1, 9, 6, 5, 1, 8, 3, 4]

4.2

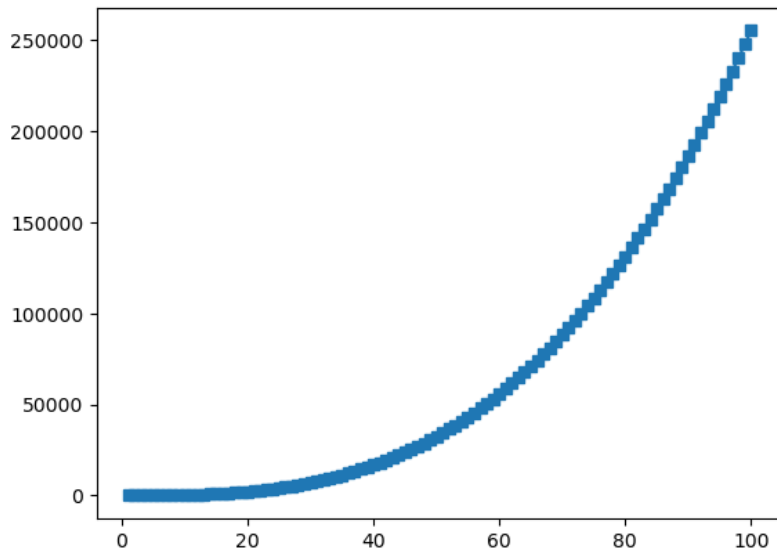
结果:

最终结果: 12.0

4.3

结果:

[1.0, 4.5, 12.0, 25.0, 45.0, 73.5, 112.0, 162.0, 225.0, 302.5, 396.0, 507.0, 637.0, 787.5, 960.0, 1156.0, 1377.0, 1624.5, 1900.0, 2205.0, 2541.0, 2909.5, 3312.0, 3750.0, 4225.0, 4738.5, 5292.0, 5887.0, 6525.0, 7207.5, 7936.0, 8712.0, 9537.0, 10412.5, 11340.0, 12321.0, 13357.0, 14449.5, 15600.0, 16810.0, 18081.0, 19414.5, 20812.0, 22275.0, 23805.0, 25403.5, 27072.0, 28812.0, 30625.0, 32512.5, 34476.0, 36517.0, 38637.0, 40837.5, 43120.0, 45486.0, 47937.0, 50474.5, 53100.0, 55815.0, 58621.0, 61519.5, 64512.0, 67600.0, 70785.0, 74068.5, 77452.0, 80937.0, 84525.0, 88217.5, 92016.0, 95922.0, 99937.0, 104062.5, 108300.0, 112651.0, 117117.0, 121699.5, 126400.0, 131220.0, 136161.0, 141224.5, 146412.0, 151725.0, 157165.0, 162733.5, 168432.0, 174262.0, 180225.0, 186322.5, 192556.0, 198927.0, 205437.0, 212087.5, 218880.0, 225816.0, 232897.0, 240124.5, 247500.0, 255025.0]



## 5. Path counting

### 5.1

结果:

```
[[1, 0, 1, 0, 0, 1, 0, 0, 1, 1],
 [1, 0, 0, 0, 0, 1, 1, 1, 0, 1],
 [1, 1, 0, 0, 0, 0, 0, 1, 0, 0],
 [0, 1, 0, 0, 0, 1, 1, 0, 0, 0],
 [0, 1, 1, 1, 0, 0, 1, 0, 0, 0],
 [1, 1, 0, 1, 0, 1, 0, 1, 1, 0],
 [1, 1, 1, 1, 0, 0, 1, 0, 0, 1],
 [1, 1, 0, 1, 0, 1, 1, 1, 0, 1],
 [0, 0, 0, 0, 0, 0, 0, 1, 0, 0],
 [0, 0, 0, 1, 1, 1, 1, 0, 0, 1]]
```

### 5.2

结果:

```
[1, 1, 1, 0, 0, 1, 0, 1, 0, 0]
[0, 0, 1, 0, 0, 1, 0, 0, 1, 0]
[0, 1, 1, 0, 1, 0, 0, 0, 0, 0]
[1, 1, 0, 0, 0, 0, 0, 0, 1, 0]
[1, 0, 1, 1, 1, 0, 0, 1, 0, 1]
[1, 0, 1, 0, 1, 0, 0, 0, 0, 0]
[0, 0, 1, 0, 1, 0, 1, 0, 0, 1]
[0, 1, 0, 1, 0, 1, 1, 0, 0, 0]
[1, 0, 0, 0, 1, 1, 1, 1, 0, 0]
[1, 0, 1, 0, 1, 0, 0, 0, 1, 1]
```

路径数: 0

### 5.3

结果:

总路径数: 313

平均路径数: 0.313000