2023hw4

2023 年 10 月 31 日

1. 斐波纳契数列 II

[ ]:
```
def fbi(n):
    if n == 1 or n == 2:
        return 1
    else:
        return fbi(n-1)+fbi(n-2)

n = eval(input())
print(fbi(n))
```

2. 连续质数计算

[3]:
```
import math
def prime(m):
    m = math.ceil(m)
    def is_prime(n):
        flag = True
        if n == 1:
            flag = False
        else:
            for i in range(2, int(n**0.5) + 1):
                if n % i == 0:
                    flag = False
                    break
        return flag
    result = []
    num = 5
    while num:
        if is_prime(m):
            result.append(str(m))
            num -= 1
```

```
        m += 1
    return ','.join(result)

n = eval(input())
print(prime(n))
```

```
12
13,17,19,23,29
```

3. 随机密码生成

[ ]:
```
import random

def genpwd(length):
    a=random.randint(10**(length-1),(10**length-1))
    return a

length = eval(input())
random.seed(17)
for i in range(3):
    print(genpwd(length))
```

4. 输出九九乘法表

[3]:
```
for i in range(1, 10):
    for j in range(1, i+1):
        print('{0}×{1}={2}'.format(j, i, j*i), end = ' ')
    print()
```

```
1×1=1
1×2=2 2×2=4
1×3=3 2×3=6 3×3=9
1×4=4 2×4=8 3×4=12 4×4=16
1×5=5 2×5=10 3×5=15 4×5=20 5×5=25
1×6=6 2×6=12 3×6=18 4×6=24 5×6=30 6×6=36
1×7=7 2×7=14 3×7=21 4×7=28 5×7=35 6×7=42 7×7=49
1×8=8 2×8=16 3×8=24 4×8=32 5×8=40 6×8=48 7×8=56 8×8=64
1×9=9 2×9=18 3×9=27 4×9=36 5×9=45 6×9=54 7×9=63 8×9=72 9×9=81
```

5. 寻找水仙花数

[5]:
```
for i in range(100, 1000):
    a = i // 100
    b = (i%100) // 10
    c = i % 10
    if (a**3 + b**3 + c**3) == i:
        print(i)
```

```
153
370
371
407
```

6. 输入一个数字 n，输出一个边长为 n 的正方形。

[ ]:
```
n = int(input())
for i in range(1, n+1):
    if i == 1 or i == n:
        print('*'*n)
    else:
        print("*"+" "*(n-2)+"*")
```