

```
1 # 5-5.py
2 # 使用言語 python3
3
4 import matplotlib.pyplot as plt
5
6 # サンプルデータの定義 =====
7 N = 5          # Signal length
8 x = [1, 0, 1, 0, 0]
9 # 自己相関関数
10 Rr = [0,0,0,0,0]
11 def auto_correlate(x):
12     for m in range(N-1):
13         for n in range(N-1):
14             if(n+m) >= N:
15                 break
16             Rr[m] += x[n] * x[n+m]
17         Rr[m] = Rr[m] / (N-m)
18     return Rr
19
20 Rr = auto_correlate(x)
21 plt.plot(Rr)
22 plt.title("5-5.py")
23 plt.savefig("5-5.png")
```