

1. approximate optimal solution

大致維持在 2300，幸運一點可以得到 1900 多。

distance	traveling sequence	function value	running time
2236.0	9, 14, 13, 7, 0, 5, 16, 3, 12, 6, 15, 11, 8, 2, 10, 4, 1	T1=500 n=110 alpha=0.95	0.0468754
2323	11, 8, 15, 3, 12, 7, 13, 4, 1, 9, 10, 0, 6, 16, 5, 14, 2	T1=500 n=110 alpha=0.95	0.0468537
2252	0, 15, 11, 8, 3, 12, 13, 5, 14, 10, 4, 1, 9, 2, 16, 6, 7	T1=500 n=110 alpha=0.95	0.0468792

2. trial and error

T1=500

n=200

alpha=0.95

```
p:0.7738884367559656
y:0.0
[1, 4, 8, 12, 16, 13, 14, 9, 10, 2, 5, 7, 6, 0, 3, 15, 11]
ans:2206.0
--- 0.10938811302185059 seconds ---
```

若 n 設太大，會造成 exponential 項變成 0

T1=100

n=110

alpha=0.95

```
p:0.3385909957218094
y:0.0
[15, 8, 11, 1, 9, 5, 6, 7, 14, 10, 4, 2, 13, 16, 0, 3, 12]
ans:2620.0
--- 0.04685544967651367 seconds ---
```

若 T1 設太小，也會造成 exponential 項變成 0

T1=100

n=110

alpha=0.85

```
p:0.5589505303238534  
y:0.0  
[4, 1, 2, 16, 7, 5, 0, 15, 11, 3, 12, 6, 13, 14, 9, 10, 8]  
ans:2649.0  
--- 0.06251716613769531 seconds ---
```

若 alpha 設太小，也會造成 exponential 項變成 0

所以最後選用

T1=500

n=110

alpha=0.95