

OS HW4 report

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Q1:

Compare results between hw4_1_1 with/without synchronization.

With:

```
0: 4044
1: 3973
2: 3983
```

Without:

```
0: 3846
1: 3785
2: 3794
```

因為 race condition 導致 counts 的數量沒鎖會比有鎖還要少

Q2:

Compare results between hw4_1_2 with/without synchronization.

With:

```
0: 4044
1: 3973
2: 3983
```

Without:

```
0: 2: 37443787
1: 3743
```

因為 race condition 導致 counts 的數量沒鎖會比有鎖還要少，並且輸出順序不依定會依照 012，甚至交錯

Q3:

Compare results between hw4_2 with/without synchronization.

With:

```
get: 78525
Pi: 3.141
```

Without:

```
get: 31475
Pi: 1.259
```

因為 race condition 導致 get 的數量沒鎖會比有鎖還要少，並因此算出的 pi 也一樣較小

Q4:

Some problems you meet and how to resolve.

or some Reflections.

原本以為是鎖失效或沒鎖到，但其實是傳給 `pthread` 的 `begin` 和 `end` 給錯，改完後便解決了問題。