

## Advance

- For statement
  - Single statement for  
每次進入迴圈前會先檢查條件，條件符合時才會執行 **statement**，不符合時則跳出迴圈。
  - C's for loop  
先初始化條件變數  $i=0$  後執行 **statement**，**statement** 執行完後會判斷變數是否在範圍內，若在範圍內則繼續執行，超出範圍時則跳出迴圈。
- 測資執行截圖



```
user@user-VirtualBox:~/2018_compiler/hw3_stu$ java main
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
```

- Single statement

```
ldc 0
istore 0
goto for_1
for_1:
iload 0
ldc 10
if_icmpge end_for_1
iload 0
getstatic java/lang/System/out Ljava/io/PrintStream;
swap                ;swap the top two items on the stack
invokevirtual java/io/PrintStream/println(I)V
iload 0
ldc 1
iadd
istore 0
goto for_1
end_for_1:
```

- C's for loop

```
ldc 5  
istore 1  
ldc 0  
istore 0  
goto for_2  
for_2:  
iload 0  
getstatic java/lang/System/out Ljava/io/PrintStream;  
swap ;swap the top two items on the stack  
invokevirtual java/io/PrintStream/println(I)V  
iload 0  
ldc 1  
iadd  
istore 0  
iload 0  
ldc 15  
if_icmpge end_for_2  
goto for_2  
end_for_2:
```