



# Byte Code 的革命

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# 在 Python 的哪一个版本 Byte Code 变成了 Word Code





## co\_code

0:	LOAD_NAME	0
3:	LOAD_CONST	0
6:	COMPARE_OP	2
9:	POP_JUMP_IF_FALSE	20
12:	LOAD_CONST	1
15:	PRINT_ITEM	
16:	PRINT_NEWLINE	
17:	JUMP_FORWARD	0
20:	LOAD_CONST	2
23:	RETURN_VALUE	

## co\_consts

0:	'__main__'
1:	'Hello PyCon'
2:	None

## co\_names

0:	'__name__'
----	------------

```
if __name__ == '__main__':  
    print('Hello PyCon')
```

foo.py

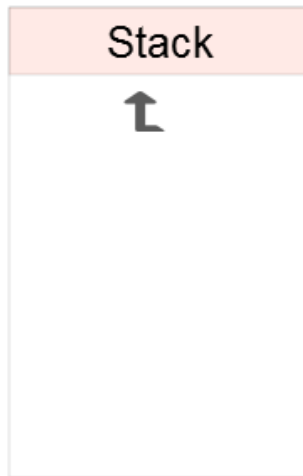
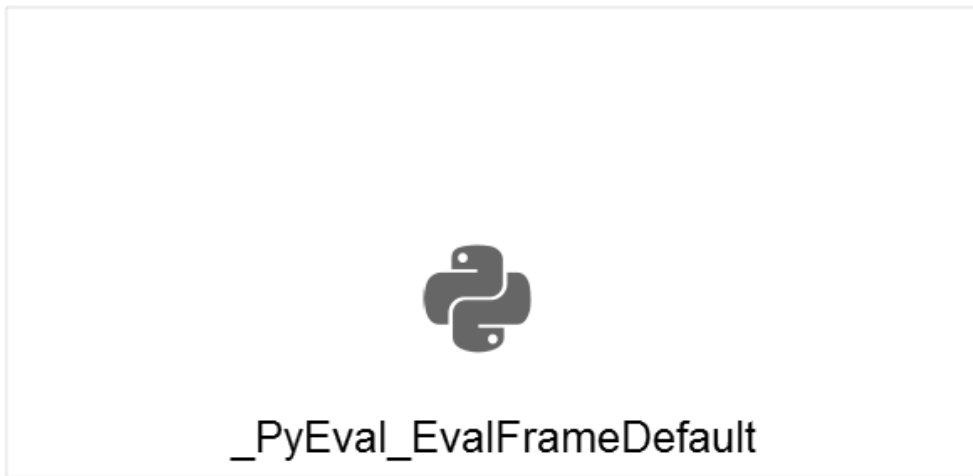


	co_code	
0:	LOAD_NAME	0
2:	LOAD_CONST	0
4:	COMPARE_OP	2
6:	POP_JUMP_IF_FALSE	16
8:	LOAD_NAME	1
10:	LOAD_CONST	1
12:	CALL_FUNCTION	1
14:	POP_TOP	0
16:	LOAD_CONST	2
18:	RETURN_VALUE	0

co_consts	
0:	'__main__'
1:	'Hello PyCon'
2:	None

co_names	
0:	'__name__'
1:	'print'

globals / locals	
'__name__':	'__main__'
'print':	<function print>



```
if __name__ == "__main__":
    print( "Hello PyCon" )
```

# Byte Code

Offset	OP Code (1 bytes)	Operand (2 bytes)	
0	LOAD_NAME	0	0
2 3	LOAD_CONST	0	0
4 6	COMPARE_OP	2	0
6 9	POP_JUMP_IF_FALSE	20	0
8 12	LOAD_CONST	1	0
10 15	PRINT_ITEM	0	
12 16	PRINT_NEWLINE	0	
14 17	JUMP_FORWARD	0	0
16 20	LOAD_CONST	2	0
18 23	RETURN_VALUE	0	

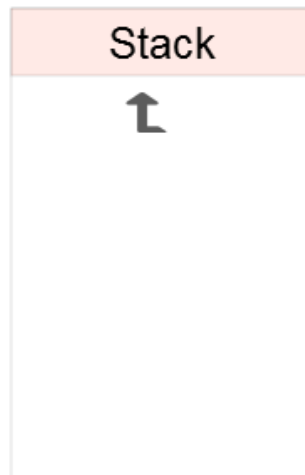
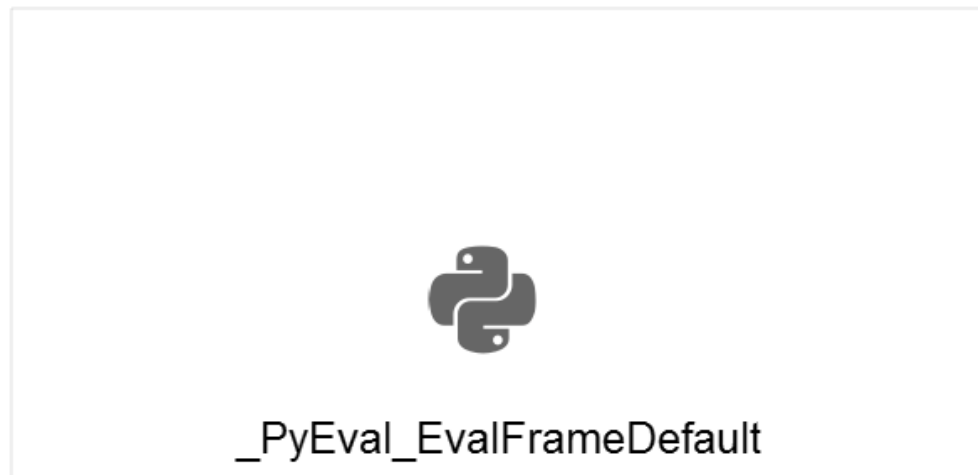


	co_code	
0:	LOAD_NAME	0
2:	LOAD_CONST	0
4:	COMPARE_OP	2
6:	POP_JUMP_IF_FALSE	16
8:	LOAD_NAME	1
10:	LOAD_CONST	1
12:	CALL_FUNCTION	1
14:	POP_TOP	0
16:	LOAD_CONST	2
18:	RETURN_VALUE	0

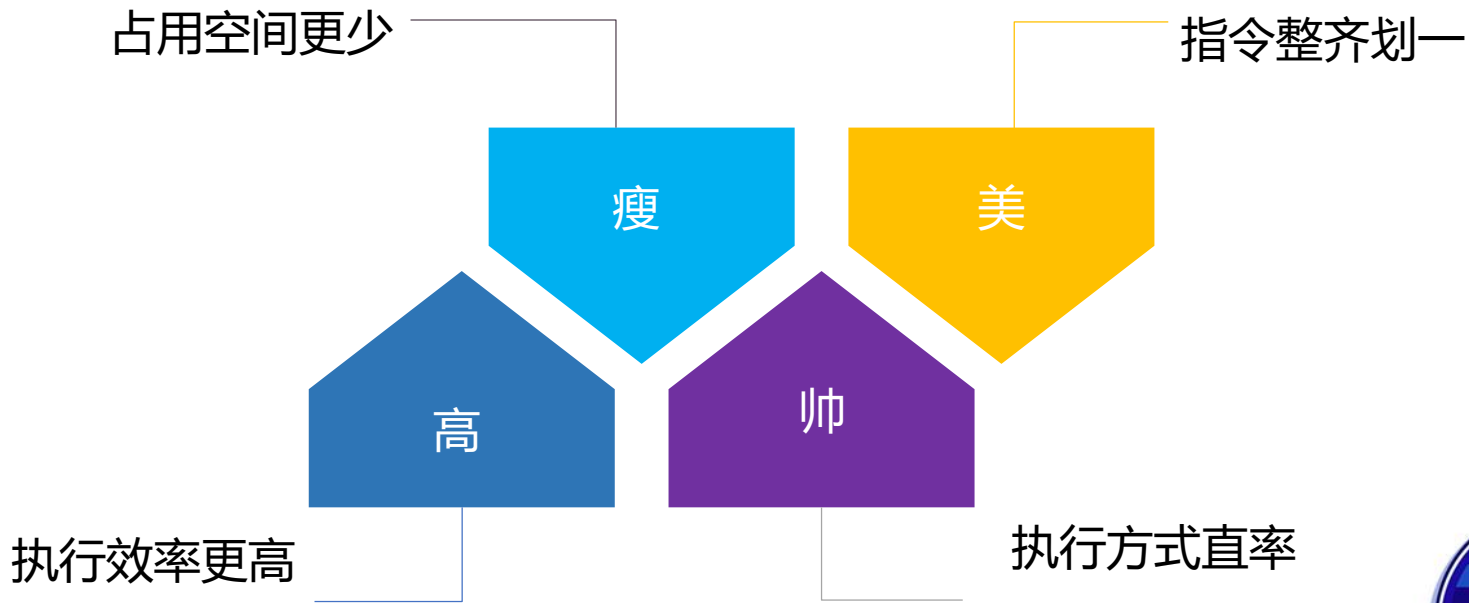
co_consts	
0:	'__main__'
1:	'Hello PyCon'
2:	None

co_names	
0:	'__name__'
1:	'print'

globals / locals	
'__name__':	'__main__'
'print':	<function print>



```
if __name__ == "__main__":
    print( "Hello PyCon" )
```





# THANK YOU



赵俊德，开发有高安全性的 Python 脚本加密工具 PyArmor，其目标是让 Python 在商业软件中得到更广泛和更方便的应用

