

## Python Assignment 8 - The Funniest Joke in the World

Dear Sir or Madam,

I am contacting you with hopes that you may help me with an extremely important task. I'm a secret agent in Britain's MI-6 and I've stumbled upon remnants of the Funniest Joke in the World. Unfortunately, I've read a lethal dose of the joke and may perish at any moment.

This joke was written by the famed joke writer Ernest Scribbler and has caused many lethal fits of violent comedy. Its potency is not quelled by somber music played from gramophone records nor the chanting of laments by a collection of men. During WWII the killer joke killed top allied commanders and was found to be effective at a range of over fifty yards. It was then translated into German by a collection of translators each translating a single word in joke proof conditions. A glance of a second word caused one to end up in the hospital for a number of weeks. Debuting in combat on July 8, 1944 the joke was highly effective, approximately 60,000 times the strength of pre-war jokes. It was presumed that the joke was retired to the Barkshire countryside in 1945 but I stumbled upon a copy in our archives.

Unlike that time, peace has begun to unravel and we would like to be able to safely transmit, duplicate and store a copy of this killer joke. However, the encrypted version does not need to be extremely strong due to the potency of the unencrypted joke. I need a Python class to encrypt the joke. Once we receive it from you we will then encrypt the joke, save the class and its state such that in dire times the joke may again be used to kill.

In order for this to work we need a class **Cipher** which implements the following methods:

- A zero argument constructor.
- **encrypt** - takes in the joke and returns an encrypted version
- **decrypt** - takes in an encrypted joke and returns it
- **get\_state** - returns a state value used to set the state of another **Cipher** object
- **set\_state** - sets the state of the cipher

It is critical that this cipher decrypt an encrypted version to a copy identical to the original. **get\_state** and **set\_state** must be implemented but may perform any action or set of actions. You may also subclass a given shell class, make state a property and implement **\_\_str\_\_**. These are described briefly in lecture slides but not lecture itself. You have until December 7 at 8 pm. Good luck.

(unsigned)

Some less potent jokes in their varying encrypted forms:

8pv ifbse pg uif Npvhbs xip csplf ijt mfh sbljoh mfbwft?

Sf gfmm pvu pg b usff.

Oje zpv ifbs bcpvu uif tuvefou xip usbotgfssfe gspn 6btijohupo up  
6btijohupo 2ubuf boe sbjtfe uif T0 pg cpui 4ojwfstjujft?

jipP tEKL p WES2pm 2mpt VpZZ p nSLb8 2mpt? 6ELL.

1 mz6l49TXVE9Jl 34XB azellTz CeTiz0 96lX e De4 2EJl X33 lQz  
geJQ96ZlX6 alelz R69mz4J9lx yeBGEJ e60 eJiz0 lQz Be6eZz4 93 Qz yXET0  
0X e T9l1lTz Gz43X4Be6yz. fQz Be6eZz4 lQXEZQl 6X Qe4B yXET0 Dz 0X6z  
e60 eZ4zz0. fQz mz6l49TXVE9Jl Z4eDDz0 e JlxXT, Jel 0XC6 e60 DzZe6  
lzTT96Z 2XizJ eDXEl lQz gaR 3XXlDeTT lzeB. aE00z6Tx, e QEZz Be6  
Cze496Z e YXEZe4 f-JQ94l CeTiz0 Xmz4 e60 Je90, "p9Jlz6 DE00x, O 0X6'l  
i6XC CQX xXE lQ96i xXE e4z, lzTT96Z eTT lQzJz 2XizJ eDXEl XE4  
3XXlDeTT lzeB. O 3X4 X6z C9TT 6Xl GE1 EG C9lQ 9l!" fQz mz6l49TXVE9Jl  
VE9yiTx eGXTXZ9rz0 e60 Je90 Qz CXET0 Tzemz. fQz Te4Zz Be6 ztyTe9Bz0  
"O'B 6Xl leTi96Z lX xXE! O'B leTi96Z lX lQel T9l1lTz Be6 J9l196Z X6  
xXE4 TeG!"

O: Vhbv gmi zom LyFsnF vHrv LuT PL RGE lo JVFJ?

7: "uNVN0ZS 84 tUm88W81h. Clq B n5gb wnus quhjx?"