

## Lab 2: Shift Cipher

This is an INDIVIDUAL assignment. Due date is as indicated on BeachBoard. Follow ALL instructions otherwise you will lose points. In this lab, you will be implementing two functions. This will require the use

### Instructions:

1. Take a close look at the `shift.py` file. There are two empty functions:  
`shift_cipher_encode(string,n)` and `shift_cipher_decode(string,n)`.  
Read through both of their descriptions carefully. Remember, you will lose points if you do not follow the instructions. We are using a grading script
2. Your job is to implement both of these functions so that it passes any test case. There are some sample test cases provided for you, but these are not the only cases that we will test. There will be 30 test cases in addition to the ones that you see.
3. **Do NOT use a dictionary to encode the characters!**
4. **If there are characters other than letters, do NOT try to encrypt these**
5. After completing these functions, comment out the test cases (or delete them) or else the grading script will pick it up and mark your program as incorrect.
6. Rename your `shift.py` file to  
`lastName_firstName_section#_idNumber.py`  
this step is important!!!! Do not forget it! Please avoid spaces when renaming your file.
7. Convert your newly named `shift.py` file to a `.txt` file with the same naming scheme as above. Submit your newly named `shift.py` file and your `.txt` file on BeachBoard. Do NOT submit it in compressed folder.
8. Do not email us your code asking us to verify it. We will answer general questions, but we will not debug your code over email.

Some helpful functions (click on function to go to reference link). Please note that you do not have to use any of these. They may be useful though:

<a href="#"><code>string name.isalpha()</code></a>	Returns True if all characters in string are letters of the alphabet. Otherwise, returns False
<a href="#"><code>ord(character)</code></a>	Gets the ascii value of <code>character</code>
<a href="#"><code>chr(num)</code></a>	Gets the character of ascii value <code>num</code>
<a href="#"><code>string name.isupper()</code></a>	Returns True if all characters in string are upper case. Otherwise, returns False
<a href="#"><code>string name.islower()</code></a>	Returns True if all characters in string are lower case. Otherwise, returns False
<a href="#"><code>string name.upper()</code></a>	Converts the string to all upper case and returns it
<a href="#"><code>string name.lower()</code></a>	Converts the string to all lower case and returns it

Ascii table for your reference

Ascii encoding	ascii Character		Ascii encoding	ascii Character
A	65		a	97
B	66		b	98
C	67		c	99
D	68		d	100
E	69		e	101
F	70		f	102
G	71		g	103
H	72		h	104
I	73		i	105
J	74		j	106
K	75		k	107
L	76		l	108
M	77		m	109
N	78		n	110
O	79		o	111
P	80		p	112
Q	81		q	113
R	82		r	114
S	83		s	115
T	84		t	116
U	85		u	117
V	86		v	118
W	87		w	119
X	88		x	120
Y	89		y	121
Z	90		z	122

Grading rubric

Points	Requirement
5	Correct submission (2 correctly named files, not in any folder), did not use a dictionary- all or nothing
3	Passes the test cases listed in <code>shift.py</code> and followed instructions by deleting/commenting the test cases in the file (all or nothing)
7	Passes the remaining 30 test cases (you can get a fraction of these points)