roman cipher
strings and dictionaries

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Roman Cipher

To Encrypt			To Decrypt		
A	=	X	X	=	A
B	=	Y	Y	=	B
C	=	Z	Z	=	C
D	=	A	A	=	D
E	=	B	B	=	E
F	=	C	C	=	F
G	=	D	D	=	G
H	=	E	E	=	H
I	=	F	F	=	I
J	=	G	G	=	J
K	=	H	H	=	K
L	=	I	I	=	L
M	=	J	J	=	M
N	=	K	K	=	N
O	=	L	L	=	O
P	=	M	M	=	P
Q	=	N	N	=	Q
R	=	O	O	=	R
S	=	P	P	=	S
T	=	Q	Q	=	T
U	=	R	R	=	U
V	=	S	S	=	V
W	=	T	T	=	W
X	=	U	U	=	X
Y	=	V	V	=	Y
Z	=	W	W	=	Z

```
GREETINGS EARTHLINGS
DOBBQFKDP BXOQEIFKDP
GREETINGS EARTHLINGS
```

The Roman Cipher is a substitution cipher where letters of a message are shifted and substituted to form an encrypted message.

Today we will write code to

1. accept a string from a user
2. encrypt the string by substituting each character in the string with it's shifted counterpart
3. decrypt the encrypted string using the same method.

skills

```
# loop through characters in a string

message = "my name is john"
for c in message:
    print(c)   # c is a single character string
```

m
y

n
a
m
e

i
s

.

J
o
h
n

```
# to test if a string is in a key of a dictionary

CIPHER_ENCRYPT = {"A": "X", "B": "Y", "C": "Z"}
c = "A"

if c in CIPHER_ENCRYPT.keys():
    print("found")
else:
    print("not found")
```

found

```
# to use a dictionary

CIPHER_ENCRYPT = {"A": "X", "B": "Y", "C": "Z"}
c = "C"

some_character = CIPHER_ENCRYPT[c]
print(some_character)
```

Z

```
# adding characters to a string

some_string = "JOH"
c = "N"

some_string = some_string + c
print(some_string)
```

JOHN

```
# or

some_string = "JOH"
c = "N"

some_string += c
print(some_string)
```

JOHN