m = keyword length

omega = list of m strings

priority = list of m integers

the priority list represents the priority order of the omega strings.

if priority[0] = 3, then omega[3] string has the highest priority.

if priority[m-1] = 1, then omega[1] string has the lowest priority.

keyword = “caba”

keyword	c	a	b	a

sorted keyword	a	a	b	c
index	0	1	2	3

priority	3	0	2	1

Encoding

plaintext = “moon and sun”

keyword = “caba”

priority = [3, 0, 2, 1]

omega[3]	omega[0]	omega[2]	omega[1]
M	O	O	N
A	N	D	S
U	N		

ciphertext = omega[0] + omega[1] + omega[2] + omega[3]

= ONN + NS + OD + MAU

= ONNNSODMAU

Decoding

ciphertext = “ONNNSODMAU”

keyword = “caba”

priority = [3, 0, 2, 1]

n = (ciphertext length) // m = 2

r = (ciphertext length) % m = 2

omega[0]	omega[1]	omega[2]	omega[3]
O	N	O	M
N	S	D	A
N			U

plaintext = M O O N A N D S U N