

Q5. Alphabet with Prime Index (10 marks):

Consider each alphabet is assigned a positive integer as index as shown in the table below:

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

Please note that some of the above indexes are prime numbers, and these indexes are referred to as the “prime indexes”.

Given a sentence, you are required to sum the indexes of all alphabets shown in the sentence with **prime indexes**.

Write a programme to

Input sentence \mathcal{S} , with a constraint that the length of \mathcal{S} (including digits, symbols and spaces) must be smaller than or equal to 100. Please note that digits and symbols can be omitted later when calculating the sum.

Output the sum of the indexes of alphabets with prime index in \mathcal{S} . If the length of \mathcal{S} is greater than 100, then output “Invalid Length”.

试题 5. 质数索引的字母 (10 分):

如下表所示，每个英文字母可对应至一个正整数索引：

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

值得注意的是，有的索引的值是质数（prime numbers），这类索引可以被统称为“质数索引”。

给定一个句子，请把句子中出现、对应到质数索引的字母的索引值相加。

试写一程式以

输入 句子 \mathcal{S} ，限制 \mathcal{S} 的长度（包括数字、符号和空格）必须小于或等于 100。请注意，在之后的计算中，数字和符号可以省略。

输出 \mathcal{S} 中带质数索引字母的索引之和。如果 \mathcal{S} 的长度大于 100，则输出 “Invalid Length”。

Example (例子)

Input (输入)	Output (输出)
Hello World	28
Thanks for participating in NSS COMPETITION 2022!	99
“NTU is the most prestigious comprehensive university in Taiwan and one of the top-ranked universities in Asia.”	Invalid Length