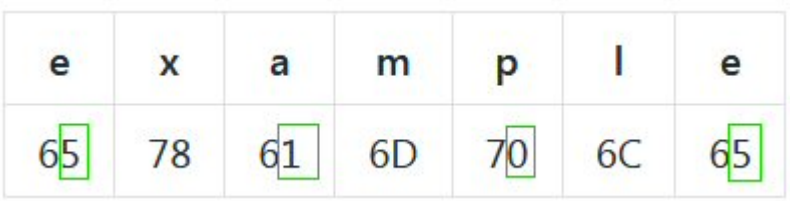
Hidden Hex Message

problem 19

7 points



Steganography is the science of hiding messages in pictures or text. You have been hired to write a program which will decode words hidden in a popular daily word game, to help a freedom fighter smuggle information out of their oppressive homeland. The steganographic code you have agreed on is that every 4th character of the hex code of the letters in the puzzle will be part of the secret message.

Letter Hex Codes:

ASCII	**a**	**b**	**c**	**...**	**i**	**j**	**k**	**...**	**o**	**p**	**q**	**...**	**w**	**x**	**y**	**z**
Hex	61	62	63	...	69	6A	6B	...	6F	70	71	...	77	78	79	7A
ASCII	**A**	**B**	**C**	**...**	**I**	**J**	**K**	**...**	**O**	**P**	**Q**	**...**	**W**	**X**	**Y**	**Z**
Hex	41	42	43	...	49	4A	4B	...	4F	50	51	...	57	58	59	5A

Input

You will receive two lines in your data file. The first will be the puzzle sentence. The second will be the question or prompt which the secret message will answer.

```
bump ow fun waps wept guy
What fixes everything?
```

Decoding:

e	**x**	**a**	**m**	**p**	**l**	**e**
65	78	61	6D	70	6C	65

Every 4th character starting from the right: 5105 (You can also approach the problem from the left, but if you do that, you need to take into account odd vs. even in your algorithm)

Output

Convert the puzzle sentence into hex code for each letter (leave the spaces as spaces). Then output the rightmost character from the hex code, then output every 4th character after that (ignoring spaces), working left. Then combine those characters in groups of 2, and output the corresponding ASCII letter to see the secret message.

```
62 75 6d 70 6f 77 66 75 6e 77 61 70 73 77 65 70 74 67 75 79
5075707079
Puppy
```