1G   Compute the Hamming Distance Between Two Strings

Hamming Distance Problem
Compute the Hamming distance between two strings.

Input: Two strings of equal length.
Output: The Hamming distance between these strings.

TCTGAAC
TCCGACC
    1   2

Formatting

Input: Two DNA strings $Text_1$ and $Text_2$.
Output: An integer representing the Hamming distance between $Text_1$ and $Text_2$.

Constraints

- The length of $Text_1$ and $Text_2$ will be between 1 and 10^4.

- $Text_1$ and $Text_2$ will have equal lengths.

- $Text_1$ and $Text_2$ will be DNA strings.

Test Cases

Case 1

Description: The sample dataset is not actually run on your code.

Input:
```
GGGCCGTTGGT
GG CCGTTG C
```

Output:
```
3
```

Case 2

Description: This dataset checks if your code isn't keeping count (i.e. returns 0 when the answer is clearly nonzero) or if your code returns a negative value, which is impossible.

Input:

```
TTTT
```

Output:
```
4
```

Case 3

Description: This dataset checks if your code is finding Edit Distance (which would be 2) instead of Hamming Distance.

Input:
```
 CGT CGT
T CGT CG
```

Output:
```
8
```

Case 4

Description: This dataset checks if your code is returning the number of matches (2) instead of the number of mismatches (6).

Input:
```
 CGT CGT
CCCCCCCC
```

Output:
```
6
```

Case 5

Description: This dataset checks if your code works on a dataset where the two input strings have no matches.

Input:
```
 CGT CGT
TGC TGC
```

Output:
```
8
```

Case 6

Description: This dataset checks if you have an off-by-one error at the beginning (i.e. you are starting at the second character of the strings instead of the first character).

Input:
```
G T GC GCTTCTG  CTGGTT CCTGCCGTG GT   TT    TTTT TTG CTT GGTC CT   T CT
  T GC GCTTCTC  CTGGTT CCTCGT TG GT   TT GGTC TT TTG CTC GGTC CT  CGTCT
```

Output:
```
15
```

Case 7

Description: This dataset checks if you have an off-by-one error at the end (i.e. you are ending at the second-to-last character of the strings instead of the last character).

Input:
```
 G   C G CCGCT TGTTC  CG TTTGTTTT TCTCGTC CCGGG T TTGCGGCC CTC TCGGTC ...
...GTTG TT CGC GGGCGT   TCGCC G  TC GGCTG
 G   CCC CCGCT     C  CG TTTGCGT GTC GGTC CCGGG T TTGCGGCC CT  GGCCTTG...
...G TG TT CGC G  CGT TTG CCC G  TC GGCTC
```

Output:
```
28
```

Case 8

Description: A larger dataset of the same size as that provided by the randomized autograder. Check input/output folders for this dataset.