

Complementing a Strand of DNA

Orr Shomroni

21 Oktober, 2021

Problem

In [DNA strings](#), symbols 'A' and 'T' are complements of each other, as are 'C' and 'G'.

The [reverse complement](#) of a [DNA string](#) s is the string s^c formed by reversing the symbols of s , then taking the complement of each symbol (e.g., the reverse complement of "GTCA" is "TGAC").

Given: A DNA string s of length at most 1000 [bp](#).

Return: The reverse complement s^c of s .

Sample Dataset

AAAACCCGGT

Sample Output

ACCGGTTTT

```
def wrap(string):
    s=''
    for i in range(0,len(string),80):
        s+=string[i:i+80]
        s+='\n'
    return s

def comp(string):
    if string=="A":
        return "T"
    elif string=="C":
        return "G"
    elif string=="G":
        return "C"
    elif string=="T":
        return "A"
    else:
        return

f=open("/home/orr/Dropbox/rosalind/bioinformatics_stronghold/rosalind_revcomp.txt",'r')
s=f.readlines()[0].replace("\n","")
sc=""
for i in range((len(s)-1),-1,-1):
    sc=sc+comp(s[i])
```

```
string="The reverse complement of the DNA string s is "+sc
print(wrap(string))
```

```
## The reverse complement of the DNA string s is ACCGGGCTGCTCGTTGTTCCCGTAAATTAATAGG
## AACCCCGCTTCGTTTCGGTATCCCACTAGTTGGCCCTTAGCCTCAGCGACAATAGACCTAAGCTACTGGGCGCTATCGACC
## AGTAGGGCCCCACCCAGGCCGAAACTTATCCCGAGCGAGAGATGTACGGTTCCCGTTGTTCCAGGGGGTCTATAAATC
## CTATGAAGGGCACGTGGTCCGTCTGTTATAAACCAACCAACGACCTTTAGCACAGTTAGTTAAAGCCTCATCTGCCGAG
## ACATTGTGTACGAGACTTCATACCGGCTGCGCTAAAGCTTACTTAGCGCTTGGCGTCTGCGCCCTGTAGAAAAAGCTTC
## ACAGTGACTACGAGAGCTTACCAACGTCTCTGGAGGGTTGATTCAAAAGCCACAGCATTGCGCCTAAGAGTCCCCAGGGT
## GCGGTTCAAGGGAGTAGTTTCGGTCTTCATTAGCGCCCTTAGTGAGTGGAATCCCGCGCTCAATAGATCCTCTTTAACAG
## CACGCCCACACACGTAATGGTAAACACTCCTAGAGTAGGCGCAATTATTGATCGTTTTTGAAAGTTAAGGCGATCTCGTC
## CGTGCAACCTTCGCGATTGTGCGACACGCCTCAGGTTTGGGAGTACATTGGATCGTACCTAACCTGGTGAACCTTCATCG
## TGCACGCCATCCACCCCTGTGCACTTTATTGCCGTATATGAAGGTGTGTGGGACCGTAACTTAACACGGCCACTTGACA
## GAAGATTCAAAAATGCTTCTCATACCTTTAATCCCTTTTCATCATGATCGTGTGTATGACTCTGGAAAATGGGGCCTGAGA
## ATTCTAATACGACCTCCGGGACTAGGTTATATGACGAGTATCAATTTAACCCAGTAGAAATAGCTAATCTGCGTCTCAT
## TCACAGATGGCACGGAAGAAGACGAGTACCTAGAAGGCCTCGGGGA
```