Gene Coding Regions (1) X65747_en

In a DNA sequence, start codons and stop codons delimit a coding region of a gene –a.k.a. coding DNA sequence (CDS)–, which is the part of a gene that is translated into a protein. Any CDS starts with the universal start codon `ATG` and ends with the first occurrence of a stop codon (either `TAA`, `TAG`, or `TGA`).
Write a program that, given a DNA sequence, writes the gene coding regions it contains.

Input

A sequence of codons (triplets of A, T, C, G), which may contain zero or more CDS delimited by start/stop codons.
The input sequence may appear in several lines, with one or more whitespaces or newlines between one codon and the next.
Assume that the CDS in the sequence –if any– are well-formed. That is, if a start codon appears, an end codon will appear later before the sequence ends or the start codon appears again. No end codon will appear if no start codon has previously appeared.

Output

A line with the codons formed by each CDS found in the input DNA sequence.
If no CDS is found in the sequence, the output is "No CDS found".

Sample input 1

```
TGC ATG GCT CCG GCT AAG
 TAA TGC CGT ATG
AAT CTC AAT   GAG AAT CCG TAG AAG
```

Sample output 1

```
CDS 1: GCT CCG GCT AAG
CDS 2: AAT CTC AAT GAG AAT CCG
```

Sample input 2

```
CGT TGC TAC TGC CGT TGC GCT CCG
GCT AAG AAT CTC AAT GAG GAT AAG
```

Sample output 2

```
No CDS found
```

Sample input 3

```
CCA CGG ATA GAA ACA GGA CCC CGA AAG CTG CAC GAT
 TAC ATG GTG GGT AGA TCT GAG GCA CTT TTT TTA ACA TAT TAT
GGC TCT TCA TGC CCT GGT CGA AGG CAG TAG CGT TTA
TGT CGT ACT TAT GGA ACG TCC  GAT TGG TTT
CAC CTC AAG TAT CAT AAC AGA TTT GTT GGT GCC CCA CTA CTA
 GTA GAT TCG TGG GGA TCG GTG AAA ACC CGG
GTC GTG CTC TAT CGG GAC CGG GAA AAG AAT TGG AGT CCC TTC CTC
 GAC CTG CTT CCT CCA CCT CTA GGC AGC AAC
AGA GTG ATA CCC GCT ATG TCA ACC CGA ACT AGG CCG GCA TCG
GCA TTT GCC GTT CAG AAC CGC AGC TTG CAT CGT ACA GGG ACC
GGT CCC AAA CTA AAA CTC TAA CTC ACC ACG CGA AAA CTA ATC TCA
 CAG CAT AGT ATT GCT CTA CAG ACT AAC TAC
```

Sample output 3

```
CDS 1: GAT GGA GAT AGA TCT GAG GCA CTT TTT TTA ACA TAT TAT
CDS 2: TAC ATG GTG GGT AGA TCT GAG GCA CTT TTT TTA ACA TAT CAT AAC AGA TTT GTT GGT GCC
CDS 3: GGC TCT TCA TGC CCT GGT CGA AGG CAG TAG CGT TTA CGT ACT TAT GGA ACG TCC GAT TGG TTT TTG ATC ATG GTC
CAC CTC AAG TAT CAT AAC AGA TTT GTT GGT GCC CCA CTA CTA
GTA GAT TCG TGG GGA TCG GTG AAA ACC CGG ACC TGA AAG CAG
GTC GTG CTC TAT CGG GAC CGG GAA AAG AAT TGG AGT CCC TTC CTC
GAC CTG CTT CCT CCA CCT CTA GGC AGC AAC TCA ACA AAA ACC
AGA GTG ATA CCC GCT ATG TCA ACC CGA ACT AGG CCG GCA TCG
GCA TTT GCC GTT CAG AAC CGC AGC TTG CAT CGT ACA GGG ACC
GGT CCC AAA CTA AAA CTC TAA CTC ACC ACG CGA AAA CTA ATC TCA
CAG CAT AGT ATT GCT CTA CAG ACT AAC TAC
```

Problem information

Author: Lluís Padró

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