

--- OUTPUT for PART 1 ----

>Seq\_1  
ACGTACGT  
Type: DNA

>Seq\_2  
AUGCUG  
Type: RNA

>Seq\_3  
TUUUU  
Type: Invalid

>Seq\_4  
ACGNRYACGT  
Type: DNA

>Seq\_5  
augunacg  
Type: RNA

>Seq\_6  
TTTTTTT  
Type: DNA

>Seq\_7  
UUUNNN  
Type: RNA

>Seq\_8  
XYZXYZ  
Type: DNA

>Seq\_9  
ACGTU  
Type: Invalid

>Seq\_10  
NRYNN  
Type: DNA

>Seq\_11  
AGCUA  
Type: RNA

--- OUTPUT for PART 2 ----

>DNA\_1

ATGAAATGATAA

Type: DNA

Found 2 ORF:

- Start at 0, Stop at 6, ORF: ATGAAATGA
- Start at 0, Stop at 9, ORF: ATGAAATGATAA

>DNA\_2

ACGTACGT

Type: DNA

Found 0 ORF:

>DNA\_3

ATGCCCTGATGA

Type: DNA

Found 2 ORF:

- Start at 0, Stop at 6, ORF: ATGCCCTGA
- Start at 0, Stop at 9, ORF: ATGCCCTGATGA

>RNA\_1

AUGAAACCCUGA

Type: RNA

Found 1 ORF:

- Start at 0, Stop at 9, ORF: AUGAAACCCUGA

>RNA\_2

AUGUGA

Type: RNA

Found 1 ORF:

- Start at 0, Stop at 3, ORF: AUGUGA

>INVALID\_1

ATGU

Type: Invalid

Found 0 ORF:

>DNA\_4

TTTATGCCCTAA

Type: DNA

Found 1 ORF:

- Start at 3, Stop at 9, ORF: ATGCCCTAA

>RNA\_3

AUGAUGUAG

Type: RNA

Found 2 ORF:

- Start at 0, Stop at 6, ORF: AUGAUGUAG
- Start at 3, Stop at 6, ORF: AUGUAG

>DNA\_5

ATGCCCTAGTAA

Type: DNA

Found 2 ORF:

- Start at 0, Stop at 6, ORF: ATGCCCTAG
- Start at 0, Stop at 9, ORF: ATGCCCTAGTAA

>RNA\_4

CCCAGGAUGUAGUAA

Type: RNA

Found 2 ORF:

- Start at 6, Stop at 9, ORF: AUGUAG
- Start at 6, Stop at 12, ORF: AUGUAGUAA

>INVALID\_2

TTUUA

Type: Invalid

Found 0 ORF:

--- OUTPUT for PART 3 ---

>SEQ\_DNA\_1

ATGAAATAGTAA

Type: DNA

Length: 12

Counts: A: 7,C: 0,G: 2,T: 3,Ambiguous: 0,

Number of ORFs: 2

>SEQ\_RNA\_1

AUGAAAUAGUAA

Type: RNA

Length: 12

Counts: A: 7,C: 0,G: 2,U: 3,Ambiguous: 0,

Number of ORFs: 2

>SEQ\_DNA\_2

ACGTACGT

Type: DNA

Length: 8

Counts: A: 2,C: 2,G: 2,T: 2,Ambiguous: 0,

Number of ORFs: 0

>SEQ\_DNA\_3

TTTTTTTT

Type: DNA

Length: 8

Counts: A: 0,C: 0,G: 0,T: 8,Ambiguous: 0,

Number of ORFs: 0

>SEQ\_INVALID\_1

UUTTT

Type: Invalid

>SEQ\_RNA\_2

AUGCCCUAG

Type: RNA

Length: 9

Counts: A: 2,C: 3,G: 2,U: 2,Ambiguous: 0,

Number of ORFs: 1

>SEQ\_DNA\_4

ATGCCCTGA

Type: DNA

Length: 9

Counts: A: 2,C: 3,G: 2,T: 2,Ambiguous: 0,

Number of ORFs: 1

>SEQ\_INVALID\_2

ACGTU

Type: Invalid

>SEQ\_RNA\_3

AUGAAACGCGCGUAA

Type: RNA

Length: 15

Counts: A: 6,C: 3,G: 4,U: 2,Ambiguous: 0,

Number of ORFs: 1

>SEQ\_DNA\_5

ATGXYZ

Type: DNA

Length: 6

Counts: A: 1,C: 0,G: 1,T: 1,Ambiguous: 3,

Number of ORFs: 0

>SEQ\_DNA\_6

ATGAAACCCGGGTTTTAA

Type: DNA

Length: 18

Counts: A: 6,C: 3,G: 4,T: 5,Ambiguous: 0,

Number of ORFs: 1

---SUMMARY---

Valid DNA sequences: 6

Mean DNA length: 10.166666666666666

Valid RNA sequences: 3

Mean RNA Length: 12.0

Invalid Sequences: 2