Manipulating Sequences

Talk to a Teacher
http://spoken-tutorial.org
National Mission on Education through ICT
http://sakshat.ac.in

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Learning Objectives

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- **Generate a random DNA sequence**

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Biopython Functions

- **Find length of the sequence**
- **Count the number of individual bases or part of the string**
- **Find a particular base or part of the string**
- **Convert a sequence object to a mutable sequence object**

Pre-requisites

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- IPython interpreter version 2.3.0
- Biopython version 1.64

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- **Follow the normal conventions as you do for Python strings**

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- ▸ **Count the characters in the string starting from 0 instead of 1**

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- **Count the characters in the string starting from 0 instead of 1**
- **The first character in the sequence is position zero**

Summary

- **Generate a random DNA sequence**
- **Slice a DNA sequence at specified locations**
- **Join two sequences together to form a new sequence (Concatenate)**

Summary

- **len, count** and **find**
- **Convert a sequence object to a mutable sequence object**
- **Replace a base or part of the string**

Assignment

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- **Generate a random DNA sequence of 30 bases**

- **Using Biopython tools calculate the GC% and Molecular Weight of the sequence**

About the Spoken Tutorial Project

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- ▶ **For more details, please write to contact@spoken-tutorial.org**

Acknowledgements

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- **It is supported by the National Mission on Education through ICT, MHRD, Government of India**
- **More information on this Mission is available at http://spoken-tutorial.org /NMEICT-Intro**