

DNA Methylation

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This project was primarily motivated by DNA methylation and the software used to analyze it. When DNA has been methylated and then subjected to a bisulfite conversion, there are single nucleotide variants found in the converted DNA that indicate methylation has taken place. The conserved cytosine or guanine indicate methylated DNA, those that have changed from C → T on the forward strand or G → A on the reverse strand indicate DNA that was not methylated. This

PseudoCode

Main()

original

“GACAATTATAATTCTTCATAAAGTCATGCAATTAATAATAATAATAAAAAATAATAATTTCTT
GATTATTGCTCAAAGTGAAAGTCAATCTAAAATTTGTTTCGGTTTTCAATTCTACAATTTTATTG
AAAATATATAAATAAAAAAAAAATGGTTAATAAAGAATTGCTTAGAGTTTCCTCTTTTCTAGAACA
AACAAAAATGCTTAGACCTTCTCG=====ATAAAGAA=GG”

if LagScore < LeadScore

Functions used from previous assignments:

Global Align (sequence 1, sequence 2, indel, match, mismatch) Homework 6.2

Rev comp (sequence) Lab 3.3

Initialize Table (nrows,ncols) Lab 8