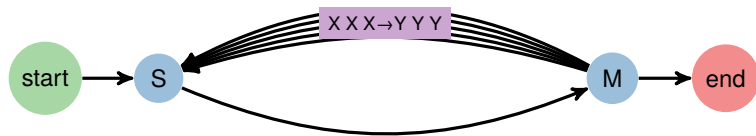


a) Substitution



Sequences

X: input nucleotides
Y: intermediate nucleotides
Z: output nucleotides
 \emptyset : nothing/empty sequence

Parameters

g : gap open weight
 e : gap extension weight
 π : nucleotide stationary frequency

b) Insertion-Deletion

