

### 3E Construct the De Bruijn Graph of a Collection of $k$ -mers

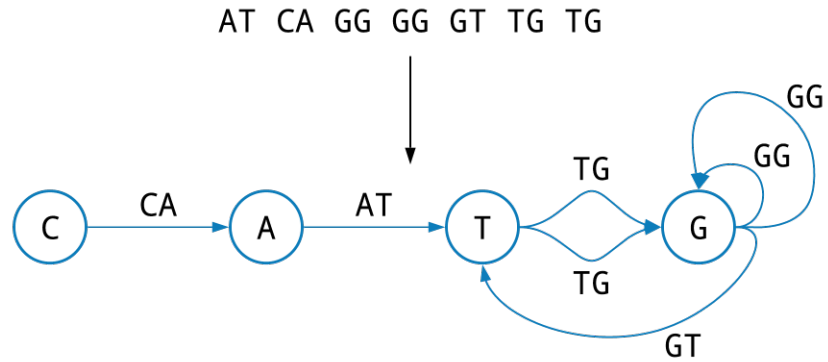
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#### De Bruijn Graph from $k$ -mers Problem

Construct the de Bruijn graph from a collection of  $k$ -mers.

**Input:** A collection of  $k$ -mers *Patterns*.

**Output:** The graph  $\text{DEBRUIJN}(\text{Patterns})$ .



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#### Formatting

**Input:** A space-separated list of  $k$ -mer strings *Patterns*.

**Output:** An adjacency list representing  $\text{DEBRUIJN}(\text{Patterns})$ .

#### Constraints

- The number of patterns in the string-set *Patterns* will be between 1 and  $10^4$ .
- The length of any one pattern in *Patterns* will be between 1 and  $10^2$ .
- All strings in *Patterns* will be DNA strings.

## Test Cases

### Case 1

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**Description:** The sample dataset is not actually run on your code.

**Input:**

G GG C GG GGGG GGG C GG GGG GG G

**Output:**

G G: GG  
C G: GG GG  
GGG: GGG GG  
GG: GGG  
GG : G G

### Case 2

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**Description:** The sample dataset is not actually run on your code.

**Input:**

GC G C GCT TG CG

**Output:**

GC : C G  
C GC: GCT  
TG C: G CG

### Case 3

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**Description:** The sample dataset is not actually run on your code.

**Input:**

GGT GGCT GGC

**Output:**

GG: GGT GGC  
GGC: GCT

#### Case 4

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**Description:** The sample dataset is not actually run on your code.

**Input:**

TTCT GGCT    GT GGCT TTCT

**Output:**

TTC: TCT TCT

GGC: GCT GCT

G: GT

#### Case 5

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**Description:** The sample dataset is not actually run on your code.

**Input:**

C C C C CC C

**Output:**

C: C

#### Case 6

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**Description:** A larger dataset of the same size as that provided by the randomized autograder. Check input/output folders for this dataset.