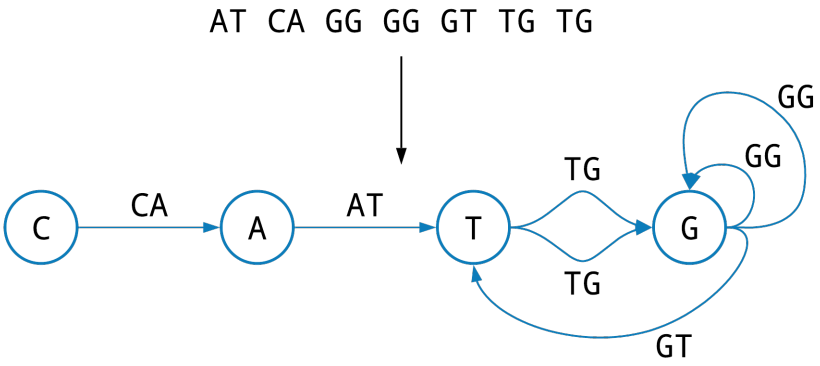
3E Construct the De Bruijn Graph of a Collection of *k*-mers

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 DeBruijn(*Patterns*).



Formatting

Input: A space-separated list of *k*-mer strings *Patterns*.
Output: An adjacency list representing DeBruijn(*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

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

Input:

```
GAGG CAGG GGGG GGGA CAGG AGGG GGAG
```

Output:

```
GAG: AGG
CAG: AGG AGG
GGG: GGG GGA
AGG: GGG
GGA: GAG
```

Case 2

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

Input:

```
GCAAG CAGCT TGACG
```

Output:

```
GCAA: CAAG
CAGC: AGCT
TGAC: GACG
```

Case 3

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

Input:

```
AGGT GGCT AGGC
```

Output:

```
AGG: GGT GGC
GGC: GCT
```

Case 4

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

Input:

```
TTCT GGCT AAGT GGCT TTCT
```

Output:

```
TTC: TCT TCT
GGC: GCT GCT
AAG: AGT
```

Case 5

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

Input:

```
CA CA CA CA CC CA
```

Output:

```
C: A A A A C A
```

Case 6

Description: A larger dataset of the same size as that provided by the randomized autograder.