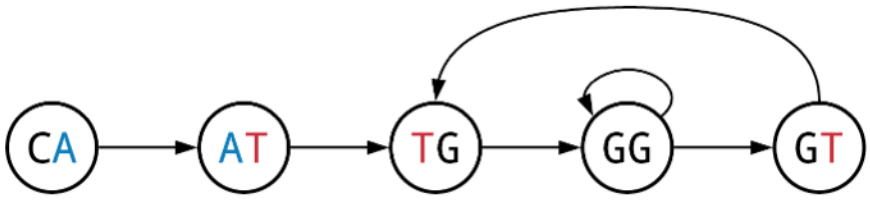
## 3C Construct the Overlap Graph of a Collection of $k$-mers

**Overlap Graph Problem**
*Construct the overlap graph of a collection of k-mers.*

**Input:** A collection *Patterns* of $k$-mers.
**Output:** The overlap graph of *Patterns*.




### Formatting

**Input:** A space-separated list of strings *Patterns*.
**Output:** An adjacency list representing the overlap graph of *Patterns*.

### Constraints

- The number of patterns in the string-set *Patterns* will be between 1 and $10^3$.
- The length of any one pattern in *Patterns* will be between 1 and $10^2$.

## Test Cases

### Case 1

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

**Input:**

```
AAG AGA ATT CTA CTC GAT TAC TCT TCT TTC
```

**Output:**

```
CTC: TCT
ATT: TTC
GAT: ATT
TCT: CTC CTA
CTA: TAC
AAG: AGA
TTC: TCT
AGA: GAT
```

### Case 2

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

**Input:**

```
ACT CTT TTT
```

**Output:**

```
TTT: TTT
CTT: TTT
ACT: CTT
```

### Case 3

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

**Input:**

```
CCCC
```

**Output:**

```
CCCC: CCCC
```

**Case 4**

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

**Input:**

```
CT TT TT TT TT TT
```

**Output:**

```
TT: TT
CT: TT
```

**Case 5**

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

**Input:**

```
GAT ATG ATC GGA
```

**Output:**

```
GAT: ATC ATG
GGA: GAT
```

**Case 6**

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

**Input:**

```
GGACT ACTGG GACTT GACTT GACTG ACTGG
```

**Output:**

```
GGACT: GACTG GACTT
GACTG: ACTGG
```

**Case 7**

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

**Input:**

```
CT TG TG TC TT TC
```

**Output:**

```
TT: TT TG TC
CT: TT TG TC
TC: CT
```

**Case 8**

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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.