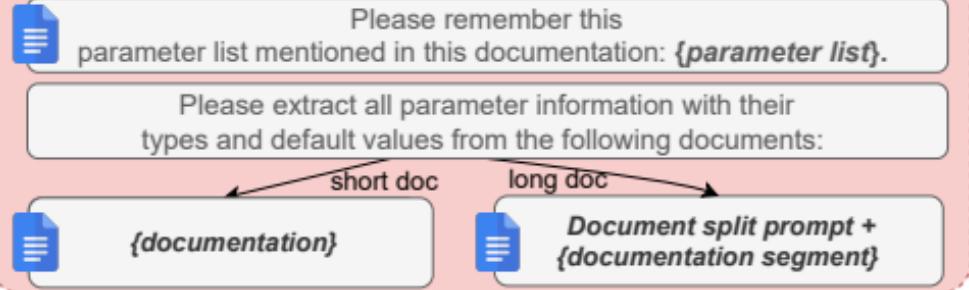


## Document Input Prompt

Act as a code developer who is reading the code documentation.



Your final task is to convert textual constraints from documentation into a specified logic format. Please think it step by step.

### Instructions:

- Logic Symbols:** Use  $\rightarrow$  to denote implication (if...then); Use  $!$  for negation (NOT); Use  $\wedge$  for logical AND; Use  $\vee$  for logical OR; Enclose expressions in parentheses () to clarify the order of operations.
- Keyword Placeholder Usage:** If a constraint contains any of the following keywords: "override", "specify", "have an effect", "no effect", "significant", "ignore", use these keywords as placeholders within your logic expression.
- Solution Format:** Present your solutions as follows:

- Constraint Number: ...
- Text Constraint: ...
- Logical Format: ...

## Constraint Extraction Prompt

### Few-shot In-context Learning

1. **Text Constraint:** "n\_clusters must be None if distance\_threshold is not None."

Logical Format:  $(!(\text{distance\_threshold} = \text{'None'})) \rightarrow (\text{n\_clusters} = \text{'None'})$ .

2. **Text Constraint:** "gamma is only significant for 'rbf', 'poly', and 'sigmoid' kernels."

Logical Format:  $((\text{kernel} = \text{'rbf'} \vee \text{kernel} = \text{'poly'} \vee \text{kernel} = \text{'sigmoid'}) \rightarrow \text{significant}(\text{gamma}))$ .

3. **Text Constraint:** "n\_init: int, default=10. The final results will be the best output of n\_init consecutive runs in terms of inertia. Only used if assign\_labels = 'kmeans'."

Logical Format:  $(\text{assign\_labels} = \text{'kmeans'}) \rightarrow !(n\_init = \text{'None'})$ .

4. **Text Constraint:** "gamma : float, default=10. Kernel coefficient for rbf, poly, sigmoid, laplacian and chi2 kernels. Ignored for affinity = 'nearest neighbors'."

Logical Format:  $(\text{affinity} = \text{'nearest\_neighbors'}) \rightarrow \text{ignore}(\text{gamma})$ .