J Argument Clustering Algorithm

Below is the pseudocode of the clustering algorithm used to cluster arguments with the same value by similarity.

Algorithm 2 Clustering similar arguments

```
procedure CREATECLUSTERS(arguments, group)
    synonym_list = create_synonym_list(arguments)
    value_list                                              ▷ list of parent-values
    arguments                                  ▷ stored with corresponding id and value
    normalise_arguments(arguments)     ▷ delete stopwords, punctuation, set caption to lower
    arg_nouns = []
    for arg in arguments do                                 ▷ iterate through arguments
        arg = extract_nounphrases(arg)
        arg_nouns.append(arg.tokenize())                ▷ arguments now reduced to wordlists
    for arg in arg_nouns do                             ▷ iterate through argument wordlists
        replace_synonyms(arg)          ▷ words looked up in synonym dictionary and replaced
    stem_args(arg_nouns)                               ▷ words in argument wordlists stemmed
    args_same_value                                    ▷ done for each value in value_list
    arg_dic = []              ▷ dictionary to store a list of similar arguments for each argument
    for i in range (args_same_value) do
        compare all arguments with each other using compare function below
        if TRUE then arg_dic[arg1].append(arg2)  ▷ if arguments similar, arg2 is added to the
list of similar argument for arg1
    clusters = arg_dic.values()
    delete_sublists(clusters)
    return clusters

procedure COMPARE(arg1, arg2)
    if intersection of common words ≥ 0.5  then return TRUE
```