

Input: All comments under one req C
Output: Comments contain questions Cq

Main Procedure:

```
foreach comments c∈C:
    if(∃ sentence s in c contains "?" && s not start with "{quote}" && s not start with "bq.")
        Cq=Cq+{c}
    c'=removeURL&Code(c)
    c'=removeQuote(c')
    cmarked=StanfordNLPGrammarParser(c)
    if(∃ sentence s in cmarked && (scontains "SBARQ" || s contains "SQ") && s not start with
"{quote}" && s not start with "bq.")
        Cq=Cq+{c}
    Cq'=coreferenceQ(C)
    Cq=Cq+Cq'
return Cq
```

```
removeURL&Code(c)
    if(c contains URL u)
        c=c.replace(u,"")
    if(c contains XML code x)
        c=c.replace(x,"")
    if(sub-string csin c && (cs start and end with "{code}" || cs start and end with "{noformat}" )
        c=c.replace(cs,"")
    if(paragraph p in c && (p start with "+" || p start with "-")
        c=c.replace(p,"")
    if(term t in c && (t end with any file extensions)
        c=c.replace(t,"")
return c
```

```
removeQuote(c)
    if(c contains bq.)
        remove the paragraph after bq.
    if(c contains {quote} pairs)
        remove text between {quote} pairs
```

```
coreferenceQ(C)[Note 3]
    Cmarked=StanfordNLPCoreferenceParser(C)
    foreach c∈C
        if(c∈Cmarked)
            foreach sentence s in c
                if(s contains co-reference)
                    if(∃ coreference coin s & !isPerson(co,c))
                        Cq'=Cq'+{c}
    return Cq'
```

```
isPerson(co, c)[Note 4]
    if(co start with "[~" and end with ")")
        return True
```

```
persons = StanfordNLPNamedEntityRecognitionParser(c)
if( $\exists$  person p in persons & p==co)
    return True
if(co is a person pronoun)
    return True
```

StanfordNLPGrammarParser: returns labeled sentences (Part-of-speech)
StanfordNLPCoreferenceParser: return labeled sentences (Co-reference)
StanfordNLPNamedEntityRecognitionParser: return labeled sentences (entities)