```
Prarau Arora
          First Ordor Logic to Conjuctice Normal Form
1BM18CS072
      import re
      dof get Attributes ( String):
          ear = '}([1)]+1)'
           matches = 78. Findall (Oxfo, String)
          Doluum [m for min str (matches) if m. is alpha ()]
       def get Predicates:
          expr = "[a-2~]+ ([A-2a-2,]+)"
          Jetuin re-Findall (expr. String)
       der De Morgan Csontonie)
            String = " - Join (list (sentence) -copy w)
            String = String. replace ('nois, ")
           Flag = 'L' in string
           String = String. roplace ("n[', ")
            · String = String · Strip ('])
              For predicate in get Predicates (string);
                     String = String. replace (producto, F'& pro
              S = list (String)
              for i.c in chumbrate (string):
                   if ( c == 'v') =
                         STI] = 'N'
                    elif ('c=='n')
                         SEN= 'V'
                           Prin
```

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string= .1. join (s)
         String = string · replace ( ~~', ")
         John F'[ & shiny 3) if Flag olso string
  JEF Stolemination ( sentence):
      .S kolem-constants = [ F'fchace) Par cin range
                               Cord('A'), ord ('2') +1)]
       Statement: ". Join Clist Lsontenie). 10pg (1)
       matches = 70. Findale ('[Y]].', statement)
        for match in matches [::-2]:
           Statement = Statement roplace (moth, ")
            Statements = 78. Andale ('TEIEE']] +17],
                                      Statement)
             For s in statements:
                   Statement = Statement. 88place (S, S[1:-1])
            for prodicate in suffredicates (statement)
                  attributes = get Attributes (predicate)
                 "if "ijoin (attributes) is lower():
                      Statoment = statement sopker
                              C mat on [1], Stolen Constants - paco)
                      Clse:
                        al = it a for a in attributes if
                                 a is locus ()
                        av= Iq for a in attributes sf not
                                    a. islower ()] [0]
                       Statement = Statement roplace
                          cab, F's Skulen.por(0)3')
                 roturn statement statement
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Rm

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Jet 161-10-(101)
  s latement = Fol. 75 place (" <= )", "-")
   while '-' in statement:
       : = Slatement index ('-')
      new stillsment = '['+ Stritsment[:i]+ +
         + statement[i+1:]+ ']n['+ statement[i+1:]
          of statement [: 1]+1]
     Statement : statement replace [" = "]
      rapr = '\ [( [^] )+) \]'
     · Statements = ro. Findall ( Bapt, Statement)
      For (1,5) in Brumerato ( stutements)
           if'E' Insand 'J' not in s:
                Statements[1] += ']'
           For 5 in Statements:
              Statement = Statement . DE Place ( S. Fo)- to-CAF(M)
      while '-' in statement:
           i'= statement. in bex ('-')
          12 = statement indesic(1E') if 'E' in
                  State ment 8158 0
         hur. statement = 'n' + Statement [60:1]+'v'
                         + statement [1+1:]
           ? tutoment = Statement [: 68] + new statement
                               if 60 > 0 else new-statement
```

Pru 3

ing in statement; inhile i stransment index ('~71) S. 11st (strike morns) SCI), SCHI), EC1+2) =1 'V', SCHI), W cladroment = " join (s) (in state ments Studement - Chatemant Anterbuliated, 'rag') stritoment. roplane (c', fol-to-inf(s) Y'my s in a tectorments: Statement = ses. Statement. Toplace (5, . Do Morgan (51) John Statement.

. KOS = Imput () print (Stolomization (Follo-(NF (Pol))