```
      SUBROUTINE CMAINE(N,B,A)
C     A=MATRIX INVERSE OF B
      COMPLEX B,A,C,R,DEL
      DIMENSION  A(N,N),B(N,N),R(100),C(100)
      DO 10 I=1,N
      DO 10 J=1,N
 10   A(I ,J)=0.
      DO 40 L=1,N
      DEL=B(L,L)
      DO 30 I=1,L
      C(I)=0.
      R(I)=0.
      DO 20 J=1,L
      C(I)=C(I)+A(I,J)*B(J,L)
 20   R(I)=R(I)+B(L,J)*A(J,I)
 30   DEL=DEL-B(L,I)*C(I)
      C(L)=-1.
      R(L)=-1.
      DO 40 I=1,L
      C(I)=C(I)/DEL
      DO 40 J=1,L
 40   A(I,J)=A(I,J)+C(I)*R(J)
      RETURN
      END
```