```
with(LinearAlgebra) :
# Mat represents all the matrices in the set R := {I, R_u^k, R_v^k, R_w^k | k in {1, 2, 3}}.
Id := ⟨⟨1, 0, 0⟩|⟨0, 1, 0⟩|⟨0, 0, 1⟩⟩ : Rx := ⟨⟨1, 0, 0⟩|⟨0, 0, 1⟩|⟨0,-1, 0⟩⟩ : Ry := ⟨⟨0, 0,-1⟩|⟨0, 1, 0⟩
    |⟨1, 0, 0⟩⟩ : Rz := ⟨⟨0, 1, 0⟩|⟨-1, 0, 0⟩|⟨0, 0, 1⟩⟩ :
 Mat := [Id, Rx, Rx . Rx, Rx . Rx . Rx, Ry, Ry . Ry, Ry . Ry . Ry, Rz, Rz . Rz, Rz . Rz . Rz] :

#variable list of a triangle ABC, A(a1,a2,a3), B(b1,b2,b3), C(c1,c2,c3).
vars := ⟨a1, a2, a3, b1, b2, b3, c1, c2, c3⟩ :


# loop all the combinations of edge types for a triangle
for i from 1 to 10 do
    A := Id - Mat[i] :
    for j from i to 10 do
        B := Id - Mat[j] :
     for k from j to 10 do
          C := Id - Mat[k] :

          M := Matrix(9, 9) : # M represents the linear system as shown in Eqn. (8) in the paper

          for s from 1 to 3 do
                for t from 1 to 3 do
                    M[s, t] := A[s, t] : M[s, 3 + t] := -A[s, t] :
                   M[s + 3, t] := B[s, t] : M[s + 3, 6 + t] := -B[s, t] :
                  M[s + 6, t + 3] := C[s, t] : M[s + 6, 6 + t] := -C[s, t] :
               od:
          od:

         RM := RowSpace(M) : # compute the basis of M
         if nops(RM) > 0 then
                # use the basis of M to eliminate the polynomail of the area of the triangle
               G := Groebner[Basis]( {Determinant(⟨⟨a1, a2, a3⟩|⟨b1, b2, b3⟩|⟨c1, c2, c3⟩⟩),
   seq(RM[i] . vars, i=1 ..nops(RM))}, tdeg(a1, a2, a3, b1, b2, b3, c1, c2, c3)) :

   #If the area of the triangle can be eliminated, it means that the area of triangle is always zero.
                #We print the encode of the combination of edge types.
               if nops(G) = nops(RM) then
                    print(i − 1, j − 1, k − 1);
               fi:
         fi:

    od: #end for k
  od:  #end for j
 od:   #end for i
```