```
ValidColouring[k_List, e_List, s_List, g_List] :=
ValidColouring[k, e, s, q] =
 Block[\{v, n = Length@k\}, v = Array[0 \&, 2 n];
  v[e] = q;
  And @@ Table [PermutationConjugation[v[c[1]]],
       SortBy[k, Length[c \cap \#] \&][-1]
         // If[#[3]] = Mod[#[5] + 1, 2n, 1],
           v[c[2]],
           InversePermutation@v[c[2]]] &]
      // If[v[c[3]]] === 0, v[c[3]]] = #;
        True,
         (*Check if derived value matches
          previously assigned value.*)
        v[c[3]]] == #1 &,
     {c, s}]];
```