```
Colourings[MD[], m_Integer] :=
 Length /@ (Sort[Length /@ (List @@ PermutationCycles@#)[[1]] ] & //
     GroupBy[Permutations@Range@m, #] & // Values);
Colourings[k_MD, m_Integer] := Colourings[k, m] =
  Block[{e = EdgeSequence@k, s, v, w = List @@@ List @@ ToPD@k}, s = SortBy[
     If[Order[Position[Join @@ e, #[[1]]], Position[Join @@ e, #[[3]]]] == 1, #, Reverse@#] & /@
      (w //. (Max@# → Min@# & /@ w[[ ;; , {3, 5}]]))[[ ;; , 2 ;; 4]],
     Max@Table[Position[Join @@ e, #[[j]]], {j, 2}] &];
   (*In s, the third values are to be derived from the first two.*)
   Total /@ Table[If[ValidColouring[w, e[[1]], s, g], 1, 0],
     {p, (Length /@ (List @@ PermutationCycles@#)[[1]] // Sort) & //
        GroupBy[Permutations@Range@m, #] & // Values}, {g, Tuples[p, Length@e[[1]]]}]];
```