```
Colourings[MDT[], m_Integer] :=
  Length /@ (Sort[Length /@
          (List @@ PermutationCycles@#)[[1]]] &
       // GroupBy[Permutations@Range@m, #] &
      // Values);
Colourings[k_MDT, 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]]]}]];
```