Assume we have categorical data. One method to define a distance between two data objects is (p-m)/p where p is the total number of categorical variables and m is the number of categorical variables for which there is a match between the objects. A second method is to introduce a new asymmetric binary variable for each of the possible values for each of the categorical variables. Give a formula for the distance between two objects in the second method in terms of p and m (where p and m have the same meaning as above; i.e. p is the number of categorical variables - *not* the number of introduced binary variables, and m is the number of matches in the categorical variables).