Practical Data Science
(KNN Model)

Write R Scripts or use R to perform any mathematical operations while solving the following problems.

Problem 1: Applying KNN Algorithm

Given the following training data, predict the class of the following new example using kNearest Neighbour for k=5: age<=30, income=medium, student=yes, credit_rating=fair. For similarity measure use a simple match of attribute values:

$$\text{Similarity}(A,B) = \sum_{i=1}^{4} w_i * \partial(a_i, b_i) \Big/ 4 \text{ where } \partial(a_i, b_i)$$

is 1 if a_i equals b_i and 0 otherwise. a_i and b_i are either *age, income, student* or *credit_rating*. Weights are all 1 except for income it is 2.

RID	age	income	student	credit_rating	Class: buys_computer
1	<=30	high	no	fair	no
2	<=30	high	no	excellent	no
3	31 . . . 40	high	no	fair	yes
4	>40	medium	no	fair	yes
5	>40	low	yes	fair	yes
6	>40	low	yes	excellent	no
7	31 . . . 40	low	yes	excellent	yes
8	<=30	medium	no	fair	no
9	<=30	low	yes	fair	yes
10	>40	medium	yes	fair	yes
11	<=30	medium	yes	excellent	yes
12	31 . . . 40	medium	no	excellent	yes
13	31 . . . 40	high	yes	fair	yes
14	>40	medium	no	excellent	no