Attributes Description:

Input variables:

Ai. bank client data:

1 - **age:** (numeric)  
2 - **job:** type of job (categorical: 'admin.','blue-collar','entrepreneur','housemaid','management','retired','self-employed','services','student','technician','unemployed','unknown')  
3 - **marital:** marital status (categorical: 'divorced','married','single','unknown'; note: 'divorced' means divorced or widowed)  
4 - **education:** (categorical: primary, secondary, tertiary and unknown)  
5 - **default:** has credit in default? (categorical: 'no','yes','unknown')  
6 - **housing:** has housing loan? (categorical: 'no','yes','unknown')  
7 - **loan:** has personal loan? (categorical: 'no','yes','unknown')  
8 - **balance:** Balance of the individual.

Aii. Related with the last contact of the current campaign:

8 - **contact:** contact communication type (categorical: 'cellular','telephone')  
9 - **month:** last contact month of year (categorical: 'jan', 'feb', 'mar', ..., 'nov', 'dec')  
10 - **day:** last contact day of the week (categorical: 'mon','tue','wed','thu','fri')  
11 - **duration:** last contact duration, in seconds (numeric). Important note: this attribute highly affects the output target (e.g., if duration=0 then y='no'). Yet, the duration is not known before a call is performed. Also, after the end of the call y is obviously known. Thus, this input should only be included for benchmark purposes and should be discarded if the intention is to have a realistic predictive model.

Aiii. other attributes:

12 - **campaign:** number of contacts performed during this campaign and for this client (numeric, includes last contact)  
13 - **pdays:** number of days that passed by after the client was last contacted from a previous campaign (numeric; 999 means client was not previously contacted)  
14 - **previous:** number of contacts performed before this campaign and for this client (numeric)  
15 - **poutcome:** outcome of the previous marketing campaign (categorical: 'failure','nonexistent','success')

Output variable (desired target):  
21 - **y** - has the client subscribed a term deposit? (binary: 'yes','no')

In [1]: