datasets:

1 school - student's school (binary: "GP" - Gabriel Pereira or "MS" - Mousinho da Silveira)

2 sex - student's sex (binary: "F" - female or "M" - male)

3 age - student's age (numeric: from 15 to 22) 🡺 (>18, < 18)

4 address - student's home address type (binary: "U" - urban or "R" - rural)

5 famsize - family size (binary: "LE3" - less or equal to 3 or "GT3" - greater than 3)

6 Pstatus - parent's cohabitation status (binary: "T" - living together or "A" - apart)

7 Medu - mother's education (numeric: 0 - none, 1 - primary education (4th grade), 2 – 5th to 9th grade, 3 – secondary education or 4 – higher education) 🡺 (>3, <= 3)

8 Fedu - father's education (numeric: 0 - none, 1 - primary education (4th grade), 2 – 5th to 9th grade, 3 – secondary education or 4 – higher education) 🡺 (>3, <= 3)

9 Mjob - mother's job (nominal: "teacher", "health" care related, civil "services" (e.g. administrative or police), "at\_home" or "other") 🡺 (atHoma + other,health + services + teacher)

10 Fjob - father's job (nominal: "teacher", "health" care related, civil "services" (e.g. administrative or police), "at\_home" or "other 🡺 (atHoma + other,health + services + teacher)

11 reason - reason to choose this school (nominal: close to "home", school "reputation", "course" preference or "other") 🡺 (Home + reputation , course + other)

12 guardian - student's guardian (nominal: "mother", "father" or "other") 🡺 (parents, other)

13 traveltime - home to school travel time (numeric: 1 - <15 min., 2 - 15 to 30 min., 3 - 30 min. to 1 hour, or 4 - >1 hour) 🡺 (1 +2 , 3+4)

14 studytime - weekly study time (numeric: 1 - <2 hours, 2 - 2 to 5 hours, 3 - 5 to 10 hours, or 4 - >10 hours) 🡺 (1 +2 , 3+4)

15 failures - number of past class failures (numeric: n if 1<=n<3, else 4) 🡺 (0,1+2+ 3)

16 schoolsup - extra educational support (binary: yes or no)

17 famsup - family educational support (binary: yes or no)

18 paid - extra paid classes within the course subject (Math or Portuguese) (binary: yes or no)

19 activities - extra-curricular activities (binary: yes or no)

20 nursery - attended nursery school (binary: yes or no)

21 higher - wants to take higher education (binary: yes or no)

22 internet - Internet access at home (binary: yes or no)

23 romantic - with a romantic relationship (binary: yes or no)

24 famrel - quality of family relationships (numeric: from 1 - very bad to 5 - excellent) 🡺 (1+2+3,4+5)

25 freetime - free time after school (numeric: from 1 - very low to 5 - very high) 🡺 (1+2+3,4+5)

26 goout - going out with friends (numeric: from 1 - very low to 5 - very high) 🡺 (1+2+3,4+5)

27 Dalc - workday alcohol consumption (numeric: from 1 - very low to 5 - very high) 🡺 (1,2+3+4+5)

28 Walc - weekend alcohol consumption (numeric: from 1 - very low to 5 - very high) 🡺 (1+2,3+4+5)

29 health - current health status (numeric: from 1 - very bad to 5 - very good) 🡺 (1+2+3,4+5)

30 absences - number of school absences (numeric: from 0 to 93) 🡺 (<= 4,>4)

# these grades are related with the course subject, Math or Portuguese:

31 G1 - first period grade (numeric: from 0 to 20) 🡺 (<= 4,>4)

31 G2 - second period grade (numeric: from 0 to 20) 🡺 (<= 4,>4)

32 G3 - final grade (numeric: from 0 to 20, output target) 🡺 (<= 4,>4)

Additional note: there are several (382) students that belong to both datasets .

These students can be identified by searching for identical attributes

that characterize each student, as shown in the annexed R file.