

```

// struct data {
//     code
//     weight
//     height
//     age
//     gender
// }

// struct file {
//     code
//     attituderoll
//     attitudepitch
//     attitudeyaw
//     gravityx
//     gravityy
//     gravityz
//     rotationRatex
//     rotationRatey
//     rotationRatez
//     userAccelerationx
//     userAccelerationy
//     userAccelerationz
// }

// LGPATH = 100
// LINE = 1000
// NB_VACCS = 600
// NB_PARTICIPANTS = 24
// NB_TESTS = 15

○——○
| Main |
○——○

*
char paths[][LGPATH] = "dws_1/", "dws_2/", "dws_11/", "jog_9/",
                        "jog_16/", "sit_5/", "sit_13/", "std_14/",
                        "std_6/", "ups_3/", "ups_4/", "ups_12/", "wlk_7/", "wlk_8/", "wlk_15/"

subs[][LGPATH] = "sub_1.csv", "sub_2.csv", "sub_3.csv", "sub_4.csv",
                 "sub_5.csv", "sub_6.csv", "sub_7.csv",
                 "sub_8.csv", "sub_9.csv", "sub_10.csv", "sub_11.csv", "sub_12.csv",
                 "sub_13.csv", "sub_14.csv", "sub_15.csv", "sub_16.csv",
                 "sub_17.csv", "sub_18.csv", "sub_19.csv", "sub_20.csv", "sub_21.csv",
                 "sub_22.csv", "sub_23.csv", "sub_24.csv"

actualPath[LGPATH] = ""

○——○ ↓ data_subjects_info.csv
| arrayGenders |
○——○ ↓ genders

○——○ ↓ paths
| arrayMvtNames |
○——○ ↓ mvtNames

open trainSet.csv in writing
open testSet.csv in writing

if(trainSet.csv == NULL OR testSet.csv == NULL)
    sortir "Erreur d'ouverture"
else

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writing "Mouvement, genre, index" in trainSet

iTrain = 0
do while (iTrain < NB_VACCS)
    écrire "vAcc" + iTrain + 1
    iTrain++

writing "Mouvement, genre, index" in testSet

iTest = 0
do while (iTest < NB_VACCS)
    writing "vAcc" + iTest + 1
    iTest++

iTest1 = 1
iTest2 = 2
indexTest = 1
indexTrain = 1

i = 0
do while (i < NB_TESTS)
    if (iTest2 == NB_PARTICIPANTS)
        iTest1 = 1
        iTest2 = 2

    j = 0
    do while (j ≤ NB_PARTICIPANTS)
        actualPath[LGPATH] = paths[i] + "sub_" + j + ".csv"

        if (iTest1 == j OR iTest2 == j)
            ↓ testSet.csv, actualPath, mvtNames[i], indexTest, genders[j]
            | writingDataSet |
            ○
            indexTest++
        else
            ↓ trainSet.csv, actualPath, mvtNames[i], indexTrain, genders[j]
            | writingDataSet |
            ○
            indexTrain++

        j++

    iTest1 +=2
    iTest2 +=2
    i++

close trainSet.csv
close testSet.csv

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○──────────○ ↓ motionFile, actualPath, mvtName, index, gender
| writingDataSet |
○──────────○

*
open actualPath

if(actualPath == NULL)
    sortir index + " error opening actualpath \n"
else

    if (mvtName == "dws") // strcmp en C
        mvtNum = 1
    if (mvtName == "jog")
        mvtNum = 2
    if (mvtName == "sit")
        mvtNum = 3
    if (mvtName == "std")
        mvtNum = 4
    if (mvtName == "ups")
        mvtNum = 5
    else
        mvtNum = 6

    data = mvtNum + " " + gender + " " + index
    writing data in motionFile

    line = 1 line of motionFile (reading the titles)

    line = 1 line of motionFile
    i = 0
    do while (line ≠ NULL AND i < NB_VACCS)
        sscanf_s(line, "%d, %lf, %lf, %lf, %lf, %lf, %lf, %lf, %lf, %lf, %lf, %lf, %lf",
                    &file.code, &file.attituderoll, &file.attitudepitch, &file.attitudeyaw,
                    &file.gravityx, &file.gravityy, &file.gravityz,
                    &file.rotationRatex, &file.rotationRatey, &file.rotationRatez,
                    &file.userAccelerationx, &file.userAccelerationy,
                    &file.userAccelerationz
        )

        writing rac( $userAccelerationx^2 + userAccelerationy^2 + userAccelerationz^2$ ) in motionFile

        line = 1 line of motionFile
        i++

    close actualPath

```

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○-----○ ↓ data_subjects_info.csv
| arrayGenders |
○-----○ ↓ genders
*
open data_subjects_info.csv in reading

if(data_subjects_info.csv == NULL)
    sortir "error opening data_subjects_info.csv"

else
    i = 0

    line = 1 line of data_subjects_info.csv (reading of titles)

    line = 1 line of data_subjects_info.csv
    do while (line ≠ NULL)
        sscanf_s(line, "%d,%d,%d,%d,%d", &data.code, &data.weight,
                                                &data.height, &data.age, &data.gender);
        genders[i] = data.gender
        i++
        line = 1 line of data_subjects_info.csv

    close data_subjects_info.csv

```

```

○-----○ ↓ paths
| arrayMvtNames |
○-----○ ↓ mvtNames
*
i = 0
do while (i < NB_TESTS)
    strncpy_s(mvtNames[i], LGPATH, paths[i], 3);
    i++

```