

```
// 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

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```

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

```

```
    writing "Mouvement, genre, index" in trainSet
```

```

    iTrain = 0
    do while (iTrain < NB_VACCS)
        writing "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
```

```

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

*
open actualPath

    if(actualPath == NULL)
        output 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",
                                &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

```

```

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

if(data_subjects_info.csv == NULL)
output "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++

```