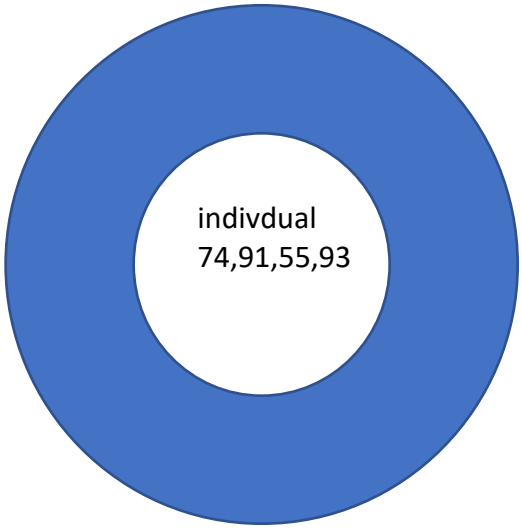
***** This is where I think the problem is ******
We have a sample that has 4 contributors we use sim.mix to make the repliste in step 8 and the list of alleles for prosecutor and the defense. Later we use noncom.sus alleles to calculate LRs. That doesn't seem right.

Sample: Sim.Mix

Noncom.sus: Indivdual 10,2,29,26



Alleles: for sim.mix @ K

```
D7S820
"11/10"
"8/9"
"11/8"
"10/8"
```

Alleles for noncom.sus @ k

```
D7S820
"12/11"
"8/11"
"11/11"
"9/8"
```

For non contributors :

FUNCTION is CALLED:

1) A file is input by the user
2) Genotypes are simulated using simugeno with respect to the tabfreq object == **sim.genotypes**

3) The non contributor suspect data is generated using simumix object and sim.genotypes == **noncom.sus**

```
> noncon.sus$mix.prof
      CSF1PO  D3S1358 D5S818  D7S820  D8S1179 D13S317 D16S539 D18S51  D21S11    FGA     TH01  TPOX   VWA
ind10 "9/12"  "16/15" "8/13"  "12/11" "12/16" "11/13" "12/13" "18/17" "29/30"   "19/23" "7/9" "6/6"  "18/17"
ind2  "7/12"  "17/16" "12/11" "8/11"  "13/14" "11/11" "12/10" "17/14" "28/32.2" "26/23" "6/7" "8/9"  "15/15"
ind29 "7/10"  "15/15" "11/12" "11/11" "14/13" "13/11" "11/11" "12/19" "29/35"   "20/27" "7/9" "6/11" "15/16"
ind26 "10/11" "16/16" "11/13" "9/8"   "16/14" "11/13" "12/9"  "16/15" "35/30.2" "24/24" "7/7" "9/11" "17/16"
>
```

4) A Matrix that holds allele frequencies according to the input file is generated == pop.afs.matrix

Beginning of loop: else if (non.or.truecontrib == 1)

5) Sim.mix is created. When the function was called the number of contributors was set to four, so four of the 100 generated individuals are randomly selected and saved to sim.mix.

```
> sim.mix$mix.prof
      CSF1PO  D3S1358 D5S818  D7S820  D8S1179 D13S317 D16S539 D18S51  D21S11    FGA       TH01    TPOX   VWA
ind74 "13/13" "15/15" "13/11" "11/10" "13/14" "12/11" "12/12" "17/15" "28/27"   "24/20"   "7/9"   "9/9"  "19/18"
ind91 "10/13" "17/18" "11/12" "8/9"   "15/13" "12/11" "12/11" "23/18" "28/31.2" "21/22"   "9.3/9" "11/9" "17/17"
ind55 "10/12" "14/16" "8/13"  "11/8"  "14/13" "11/8"  "9/12"  "13/19" "27/30"   "26/24"   "7/8"   "9/6"  "15/15"
ind93 "9/8"   "16/17" "11/13" "10/8"  "12/14" "9/13"  "11/8"  "15/14" "30/27"   "19.2/23" "9.3/7" "10/8" "17/15"
```

6) We initiate an empty vector to hold LRs for each loci at a given simulation == singleLR_vector <- c()

Beginning of while loop : while (k < 14)

7) We save the alleles at a given K to the empty vector prosecutor.all.atk.

```
> prosecutor.all.atk
[1] 11 10  8  9 11  8 10  8
> defense.all.atk
 [1]  8 11 13  9 11  8 11 10  8  9 11  8
>
```

8) A single LR is calculated at the current loci (4) using the

#

single_LR <- LR(Repliste = c(sim.mix$mix.all[[k]])

"8" "9" "10" "11"

Tp = c(prosecutor.all.atk,
as.numeric(strsplit(**noncon.sus**$mix.prof[1,k], "/")[[1]])),

12 11

Td = c(defense.all.atk),

8 11 13 9 11 8 11 10 8 9 11 8

Vp = 0,
Vd = c(as.numeric(strsplit(**noncon.sus**$mix.prof[1,k], "/")[[1]])),

12 11
xd = 1,
xp = 0,
theta = 0,
prDHet = c(0.2,0.2),
prDHom = c(0.04,0.04),
prC = 0,

freq = pop.afs.matrix[[k,1]]
)

```
> pop.afs.matrix[[k,1]]
     5      6      7      8      9    9.3     10   10.1     11     12     13   13.2     14   14.2     15   15.2     16     17
0.0000 0.0000 0.0806 0.0766 0.0242 0.0000 0.2823 0.0000 0.2379 0.2298 0.0645 0.0000 0.0040 0.0000 0.0000 0.0000 0.0000 0.0000
    18   18.2     19   19.2     20     21     22     23     24     25     26     27     28     29     30   30.2     31   31.2
0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
    32   32.2     33   33.2     34   34.2     35     36     37
0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
>
```