Today is December 9, 2012.

```
> rm(list = ls())
> library("trioClasses")

> data(ped)
> data(geno)
> pedigreeInfo <- within(ped.df, {
    F <- as.character(fid)
    M <- as.character(mid)
    O <- as.character(id)
 })
> pedigreeInfo <- subset(pedigreeInfo, !is.na(F) & !is.na(M) &
    !is.na(O))
> tg.ped <- Pedigree(pedigreeInfo = pedigreeInfo)
> tg.ped

This pedigree object contains 1812 complete trios.
For access to the data frame use the trios() accessor function.

> id <- offspringNames(tg.ped)
> fid <- fatherNames(tg.ped)
> mid <- motherNames(tg.ped)
> names(fid) <- names(mid) <- id
> c(length(unique(id)), length(unique(fid)), length(unique(mid)))

[1] 1812 1812 1812
```

1   TrioSet

```
> head(geno.mat[, 1:6])

        snp1 snp2 snp3 snp4 snp5 snp6
578_01     2    2    0    2    2    1
578_02     1    0    1    0    2    2
578_03     0    2    2    0    2    2
1539_01    2    0    2    2    2    0
1539_02    1    1    2    0    1    0
1539_03    1    0    2    2    0    2

> geno.trio <- genoMat(tg.ped, geno.mat)
> (tg.ped.comp <- completeTrios(tg.ped, colnames(geno.trio)))

This pedigree object contains 33 complete trios.
For access to the data frame use the trios() accessor function.

> (ts <- TrioSet(tg.ped.comp, geno = geno.trio))

TrioSet (storageMode: lockedEnvironment)
assayData: 10 features, 33 samples
  element names: geno
```

```
protocolData: none
phenoData: none
featureData
  featureNames: 1 2 ... 10 (10 total)
  fvarLabels: position chromosome isSnp
  fvarMetadata: labelDescription
experimentData: use 'experimentData(object)'
Annotation:
genome:  hg19

> assayDataElement(ts, "geno")

, , F

   1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
1  1 2 2 2 0 0 0 0 0  2  2  0  0  2  0  2  2  0  2  2  0  1  2  2  2
2  1 0 0 0 1 2 0 1 1  1  2  2  1  2  1  0  1  1  1  1  1  2  1  1  0
3  0 1 2 0 1 2 1 0 0  2  2  1  2  1  2  0  0  2  2  0  2  1  1  1  0
4  1 0 2 2 2 0 1 1 1  0  2  2  2  1  0  2  0  2  1  1  1  1  2  0  2
5  2 1 2 1 2 1 2 1 0  0  0  2  2  2  2  0  1  1  2  0  0  0  0  0  2
6  1 1 1 0 0 2 2 1 2  2  2  0  2  0  1  1  1  0  0  2  0  1  0  0  1
7  2 0 2 2 1 2 0 1 2  2  2  1  2  2  0  0  1  1  0  0  0  0  2  2  2
8  0 2 2 1 1 2 1 1 1  2  2  0  0  1  0  2  2  1  2  0  2  1  2  2  1
9  1 2 2 2 1 2 1 1 2  1  2  1  1  1  1  0  2  1  2  2  1  1  0  1  0
10 1 2 1 0 2 2 1 2 2  2  0  2  2  2  2  0  1  0  1  1  0  1  2  1  0
   26 27 28 29 30 31 32 33
1   0  1  0  0  2  1  2  2
2   1  0  0  0  1  0  2  0
3   1  1  1  2  1  1  1  1
4   0  0  1  0  0  2  1  0
5   1  2  2  2  2  1  0  2
6   2  0  2  1  1  2  0  0
7   1  1  1  0  1  1  2  2
8   0  2  1  2  1  0  0  0
9   1  0  2  1  0  0  0  0
10  1  0  0  2  0  2  2  1

, , M

   1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
1  0 1 2 1 2 1 2 1 1  2  0  0  2  0  0  1  0  0  1  0  0  1  1  0  1
2  0 1 1 2 2 2 2 2 0  1  2  1  2  2  2  1  0  0  0  0  1  2  0  0  0
3  1 2 0 0 2 1 2 2 1  1  1  0  1  1  2  2  0  1  1  1  0  2  1  0  2
4  1 2 0 2 0 0 2 1 1  2  2  0  0  2  1  2  1  2  2  2  1  0  1  1  2
5  2 0 0 2 2 0 1 1 1  2  2  2  2  0  1  0  2  0  0  0  0  2  1  1  2
6  0 1 2 0 0 2 1 0 1  0  2  1  1  1  1  0  2  1  0  1  0  2  0  0  2
7  0 1 1 0 2 0 2 2 2  2  2  0  1  1  0  0  0  1  0  2  1  1  0  1  1
8  1 1 1 1 2 2 2 2 2  1  2  1  2  0  1  0  0  0  0  2  2  0  1  0  1
9  0 0 2 2 1 1 1 0 0  0  2  2  2  2  0  1  0  2  2  2  1  0  1  1  0
10 2 0 1 2 2 2 2 2 1  1  1  2  0  1  2  0  0  1  2  1  1  1  1  2  0  1
   26 27 28 29 30 31 32 33
1   0  2  2  2  2  0  2  0
```

2

```
2    1  1  1  2  1  2  2  0
3    1  1  2  0  0  0  2  0
4    1  1  2  2  2  2  2  0
5    0  2  2  2  0  0  2  1
6    2  2  2  1  0  0  0  0
7    2  1  0  1  2  2  2  1
8    0  1  0  2  2  0  2  1
9    2  2  1  0  1  1  2  0
10   0  2  1  1  0  1  0  2

, , 0

     1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
1    2 1 2 0 1 1 2 1 2  0  2  0  0  2  1  0  0  0  2  2  1  2  1  0  2
2    2 0 2 0 2 1 0 2 0  2  0  0  2  2  2  2  0  1  1  1  2  0  2  2  2
3    2 0 1 2 2 2 1 2 2  2  1  1  0  0  0  1  2  2  0  2  0  2  1  0  1
4    0 2 2 0 0 1 0 1 2  0  0  2  2  2  2  1  1  2  1  0  2  1  0  2  2
5    0 2 0 2 0 2 0 1 0  1  1  1  0  0  2  1  0  1  2  2  1  0  2  1  2
6    1 2 1 1 2 0 0 1 2  1  2  2  2  1  0  0  0  1  2  0  2  0  2  2  1
7    1 1 2 2 0 0 0 2 0  0  1  1  2  0  2  1  2  2  0  1  1  0  2  1  0
8    2 2 1 2 0 1 2 2 0  0  2  1  0  1  2  0  1  0  0  0  1  2  2  1  0
9    2 0 2 1 1 1 2 1 2  0  2  2  2  1  0  0  0  0  1  2  0  1  2  2  1
10   2 1 1 0 1 0 2 1 2  0  1  0  1  2  1  1  2  0  0  0  2  1  2  1  2
     26 27 28 29 30 31 32 33
1     2  2  2  1  1  2  0  0
2     1  1  0  2  1  2  0  1
3     1  2  2  1  2  1  2  0
4     0  1  1  2  1  1  0  2
5     1  2  1  1  1  2  0  2
6     2  1  1  1  0  1  0  0
7     2  2  1  1  1  1  1  1
8     2  0  1  0  2  0  1  1
9     1  0  1  2  0  0  0  1
10    0  2  1  0  0  1  1  1

> ts <- TrioSet(tg.ped.comp)
```