read_large.R

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```r
library(ff)
```

```
## Loading required package: bit
## Attaching package bit
## package:bit (c) 2008-2012 Jens Oehlschlaegel (GPL-2)
## creators: bit bitwhich
## coercion: as.logical as.integer as.bit as.bitwhich which
## operator: ! & | xor != ==
## querying: print length any all min max range sum summary
## bit access: length<- [ [<- [[ [[<-
## for more help type ?bit
##
## Attaching package: 'bit'
##
## The following object is masked from 'package:base':
##
##     xor
##
## Attaching package ff
## - getOption("fftempdir")=="/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T//RtmpgMDtam"
##
## - getOption("ffextension")=="ff"
##
## - getOption("ffdrop")==TRUE
##
## - getOption("fffinonexit")==TRUE
##
## - getOption("ffpagesize")==65536
##
## - getOption("ffcaching")=="mmnoflush"  -- consider "ffeachflush" if your system stalls on large write
##
## - getOption("ffbatchbytes")==16777216 -- consider a different value for tuning your system
##
## - getOption("ffmaxbytes")==536870912 -- consider a different value for tuning your system
##
##
## Attaching package: 'ff'
##
## The following objects are masked from 'package:bit':
##
##     clone, clone.default, clone.list
##
## The following objects are masked from 'package:utils':
##
##     write.csv, write.csv2
##
## The following objects are masked from 'package:base':
```

```
##
##      is.factor, is.ordered
```

```r
library(ffbase)
```

```
##
## Attaching package: 'ffbase'
##
## The following objects are masked from 'package:ff':
##
##      [.ff, [<-.ff
##
## The following objects are masked from 'package:base':
##
##      %in%, table
```

```r
library(tabplot)
```

```r
setwd("/Users/jiayuan/Documents/MA881/hw12")
#https://data.cityofboston.gov/City-Services/311-Service-Requests/awu8-dc52
requests <- read.csv.ffdf(file="311__Service_Requests-2.csv", header=TRUE, VERBOSE=TRUE,
                          first.rows=10000, next.rows=50000, colClasses=NA)
```

```
## read.table.ffdf 1..10000 (10000)  csv-read=2.631sec ffdf-write=0.315sec
## read.table.ffdf 10001..60000 (50000)  csv-read=14.695sec ffdf-write=0.82sec
## read.table.ffdf 60001..110000 (50000)  csv-read=12.474sec ffdf-write=1.068sec
## read.table.ffdf 110001..160000 (50000)  csv-read=12.586sec ffdf-write=1.195sec
## read.table.ffdf 160001..210000 (50000)  csv-read=12.368sec ffdf-write=1.084sec
## read.table.ffdf 210001..260000 (50000)  csv-read=12.534sec ffdf-write=1.426sec
## read.table.ffdf 260001..310000 (50000)  csv-read=13.732sec ffdf-write=1.938sec
## read.table.ffdf 310001..360000 (50000)  csv-read=12.989sec ffdf-write=2.025sec
## read.table.ffdf 360001..410000 (50000)  csv-read=12.425sec ffdf-write=2.009sec
## read.table.ffdf 410001..460000 (50000)  csv-read=13.105sec ffdf-write=1.975sec
## read.table.ffdf 460001..510000 (50000)  csv-read=14.798sec ffdf-write=2.426sec
## read.table.ffdf 510001..560000 (50000)  csv-read=13.81sec ffdf-write=1.833sec
## read.table.ffdf 560001..610000 (50000)  csv-read=16.369sec ffdf-write=2.428sec
## read.table.ffdf 610001..660000 (50000)  csv-read=18.675sec ffdf-write=5.333sec
## read.table.ffdf 660001..698057 (38057)  csv-read=13.394sec ffdf-write=2.85sec
##  csv-read=196.585sec  ffdf-write=28.725sec  TOTAL=225.31sec
```

```r
requests <- read.csv.ffdf(file="https://dl.dropboxusercontent.com/u/382061/311__Service_Requests.csv", 
                          first.rows=10000, next.rows=50000, colClasses=NA)
```

```
## read.table.ffdf 1..10000 (10000)  csv-read=3.685sec ffdf-write=0.645sec
## read.table.ffdf 10001..60000 (50000)  csv-read=9.688sec ffdf-write=1.591sec
## read.table.ffdf 60001..110000 (50000)  csv-read=10.28sec ffdf-write=3.079sec
## read.table.ffdf 110001..160000 (50000)  csv-read=15.961sec ffdf-write=1.482sec
## read.table.ffdf 160001..210000 (50000)  csv-read=9.551sec ffdf-write=0.962sec
## read.table.ffdf 210001..260000 (50000)  csv-read=11.085sec ffdf-write=4.175sec
## read.table.ffdf 260001..310000 (50000)  csv-read=10.605sec ffdf-write=4.267sec
## read.table.ffdf 310001..360000 (50000)  csv-read=16.815sec ffdf-write=7.78sec
## read.table.ffdf 360001..410000 (50000)  csv-read=12.66sec ffdf-write=3.364sec
```

```
## read.table.ffdf 410001..460000 (50000)   csv-read=12.158sec ffdf-write=3.493sec
## read.table.ffdf 460001..510000 (50000)   csv-read=12.643sec ffdf-write=2.288sec
## read.table.ffdf 510001..560000 (50000)   csv-read=11.917sec ffdf-write=2.648sec
## read.table.ffdf 560001..610000 (50000)   csv-read=15.624sec ffdf-write=4.086sec
## read.table.ffdf 610001..660000 (50000)   csv-read=12.991sec ffdf-write=3.804sec
## read.table.ffdf 660001..710000 (50000)   csv-read=14.69sec ffdf-write=5.147sec
## read.table.ffdf 710001..722778 (12778)   csv-read=2.61sec ffdf-write=4.691sec
##  csv-read=182.963sec  ffdf-write=53.502sec  TOTAL=236.465sec
```

dim(requests)

```
## [1] 722778      33
```

names(requests)

```
##  [1] "CASE_ENQUIRY_ID"          "OPEN_DT"
##  [3] "TARGET_DT"                "CLOSED_DT"
##  [5] "OnTime_Status"            "CASE_STATUS"
##  [7] "CLOSURE_REASON"           "CASE_TITLE"
##  [9] "SUBJECT"                  "REASON"
## [11] "TYPE"                     "QUEUE"
## [13] "Department"               "SubmittedPhoto"
## [15] "ClosedPhoto"              "Location"
## [17] "fire_district"            "pwd_district"
## [19] "city_council_district"    "police_district"
## [21] "neighborhood"             "neighborhood_services_district"
## [23] "ward"                     "precinct"
## [25] "land_usage"               "LOCATION_STREET_NAME"
## [27] "LOCATION_ZIPCODE"         "Property_Type"
## [29] "Property_ID"              "LATITUDE"
## [31] "LONGITUDE"                "Source"
## [33] "Geocoded_Location"
```

head(requests)

```
## ffdf (all open) dim=c(722778,6), dimorder=c(1,2) row.names=NULL
## ffdf virtual mapping
##                  PhysicalName VirtualVmode PhysicalVmode  AsIs
## CASE_ENQUIRY_ID CASE_ENQUIRY_ID       double        double FALSE
## OPEN_DT                 OPEN_DT      integer       integer FALSE
## TARGET_DT             TARGET_DT      integer       integer FALSE
## CLOSED_DT             CLOSED_DT      integer       integer FALSE
## OnTime_Status     OnTime_Status      integer       integer FALSE
## CASE_STATUS         CASE_STATUS      integer       integer FALSE
##                 VirtualIsMatrix PhysicalIsMatrix PhysicalElementNo
## CASE_ENQUIRY_ID           FALSE            FALSE                 1
## OPEN_DT                   FALSE            FALSE                 2
## TARGET_DT                 FALSE            FALSE                 3
## CLOSED_DT                 FALSE            FALSE                 4
## OnTime_Status             FALSE            FALSE                 5
## CASE_STATUS               FALSE            FALSE                 6
##                 PhysicalFirstCol PhysicalLastCol PhysicalIsOpen
```

```
## CASE_ENQUIRY_ID              1          1       TRUE
## OPEN_DT                      1          1       TRUE
## TARGET_DT                    1          1       TRUE
## CLOSED_DT                    1          1       TRUE
## OnTime_Status                1          1       TRUE
## CASE_STATUS                  1          1       TRUE
## ffdf data
##              CASE_ENQUIRY_ID              OPEN_DT
## 1      101000295613          07/01/2011 01:32:33 AM
## 2      101000295614          07/01/2011 02:18:31 AM
## 3      101000295615          07/01/2011 02:28:04 AM
## 4      101000295616          07/01/2011 03:03:48 AM
## 5      101000295617          07/01/2011 03:12:31 AM
## 6      101000295618          07/01/2011 03:43:07 AM
## 7      101000295619          07/01/2011 05:35:41 AM
## 8      101000295620          07/01/2011 06:24:38 AM
## :                   :                         :
## 722771 101001640653          11/22/2015 09:23:00 PM
## 722772 101001640654          11/22/2015 09:28:00 PM
## 722773 101001640655          11/22/2015 09:59:00 PM
## 722774 101001640656          11/22/2015 10:00:16 PM
## 722775 101001640658          11/22/2015 10:04:40 PM
## 722776 101001640659          11/22/2015 10:30:08 PM
## 722777 101001640661          11/22/2015 11:03:00 PM
## 722778 101001640662          11/22/2015 11:57:24 PM
##                    TARGET_DT              CLOSED_DT
## 1      07/15/2011 01:32:32 AM 07/01/2011 05:06:58 AM
## 2      07/05/2011 02:18:31 AM 07/01/2011 06:12:43 AM
## 3      08/15/2011 02:28:04 AM 08/01/2011 03:21:46 PM
## 4      07/15/2011 03:03:48 AM 07/22/2011 04:13:45 PM
## 5                             07/01/2011 06:12:38 AM
## 6                             07/05/2011 09:16:10 AM
## 7      08/15/2011 05:35:41 AM 10/17/2011 12:33:28 PM
## 8      07/15/2011 06:24:38 AM 08/23/2011 10:33:03 AM
## :                   :                         :
## 722771 12/01/2015 08:30:00 AM
## 722772 11/25/2015 08:30:00 AM
## 722773
## 722774 11/24/2015 08:30:00 AM 11/22/2015 10:50:07 PM
## 722775 11/24/2015 08:30:00 AM
## 722776 11/23/2015 10:30:06 PM
## 722777 11/27/2015 08:30:00 AM
## 722778 11/24/2015 08:30:00 AM
##                 OnTime_Status          CASE_STATUS
## 1      ONTIME                 Closed
## 2      ONTIME                 Closed
## 3      ONTIME                 Closed
## 4      OVERDUE                Closed
## 5      ONTIME                 Closed
## 6      ONTIME                 Closed
## 7      OVERDUE                Closed
## 8      OVERDUE                Closed
## :                   :                         :
## 722771 ONTIME                 Open
```

```
## 722772 ONTIME                  Open
## 722773 ONTIME                  Open
## 722774 ONTIME                  Closed
## 722775 ONTIME                  Open
## 722776 ONTIME                  Open
## 722777 ONTIME                  Open
## 722778 ONTIME                  Open
```

str(requests[1:10,])

```
## 'data.frame':    10 obs. of  33 variables:
##  $ CASE_ENQUIRY_ID            : num  1.01e+11 1.01e+11 1.01e+11 1.01e+11 1.01e+11 ...
##  $ OPEN_DT                    : Factor w/ 701229 levels "07/01/2011 01:01:28 PM",..: 15 35 38 51 !
##  $ TARGET_DT                  : Factor w/ 394017 levels "","01/01/2013 01:13:08 PM",..: 2189 477 !
##  $ CLOSED_DT                  : Factor w/ 636836 levels "","01/02/2013 03:18:07 PM",..: 503 507 7
##  $ OnTime_Status              : Factor w/ 3 levels "","ONTIME","OVERDUE": 2 2 2 3 2 2 3 3 2 3
##  $ CASE_STATUS                : Factor w/ 2 levels "Closed","Open": 1 1 1 1 1 1 1 1 1 1
##  $ CLOSURE_REASON             : Factor w/ 234270 levels "","Case Closed",..: 1958 2295 1771 1398 (
##  $ CASE_TITLE                 : Factor w/ 6825 levels ".","Abandoned Bicycle",..: 357 316 222 357
##  $ SUBJECT                    : Factor w/ 19 levels "Inspectional Services",..: 5 5 6 5 5 2 6 5 5
##  $ REASON                     : Factor w/ 63 levels "Abandoned Bicycle",..: 22 19 20 22 12 14 20 :
##  $ TYPE                       : Factor w/ 220 levels "Abandoned Bicycle",..: 102 91 51 102 31 58 !
##  $ QUEUE                      : Factor w/ 167 levels "BTDT_Abandoned Bicycle",..: 81 76 5 84 46 2
##  $ Department                 : Factor w/ 18 levels "BTDT","BWSC",..: 9 9 1 9 9 4 1 9 9 5
##  $ SubmittedPhoto             : logi  NA NA NA NA NA NA ...
##  $ ClosedPhoto                : logi  NA NA NA NA NA NA ...
##  $ Location                   : Factor w/ 111677 levels "","0 Blake St  Mattapan  MA  02126",..: (
##  $ fire_district              : int  8 12 NA 12 7 9 4 9 7 1
##  $ pwd_district               : Factor w/ 14 levels "","02","03","04",..: 7 6 6 8 3 10 10 11 7 9
##  $ city_council_district      : int  3 5 6 5 3 6 8 7 3 1
##  $ police_district            : Factor w/ 24 levels "","A1","A15",..: 6 13 13 12 7 11 10 11 7 4
##  $ neighborhood               : Factor w/ 24 levels "","Allston","Allston / Brighton",..: 13 18 2:
##  $ neighborhood_services_district: int  7 10 12 10 7 11 14 13 7 1
##  $ ward                       : Factor w/ 54 levels "","01","02","03",..: 37 41 41 38 33 30 42 31
##  $ precinct                   : int  1714 2008 2017 1816 1309 1006 2102 1103 1602 107
##  $ land_usage                 : Factor w/ 17 levels "","A","C","CC",..: 1 11 1 12 1 12 1 1 3 13
##  $ LOCATION_STREET_NAME       : Factor w/ 109756 levels "","0 Blake St",..: 6749 3653 6557 2380 6(
##  $ LOCATION_ZIPCODE           : int  NA 2131 NA 2136 NA 2130 NA NA 2122 2128
##  $ Property_Type              : Factor w/ 3 levels "","Address","Intersection": 3 2 3 2 3 2 3 3 2
##  $ Property_ID                : int  5512 87461 3522 55708 4182 51077 617 1853 60876 274500
##  $ LATITUDE                   : num  42.3 42.3 42.3 42.2 42.3 ...
##  $ LONGITUDE                  : num  -71.1 -71.1 -71.2 -71.1 -71.1 ...
##  $ Source                     : Factor w/ 7 levels "Citizens Connect App",..: 3 5 5 5 2 2 5 2 3 5
##  $ Geocoded_Location          : Factor w/ 96601 levels "(0, 0)","(42.2333, -71.1323)",..: 553 1294
```
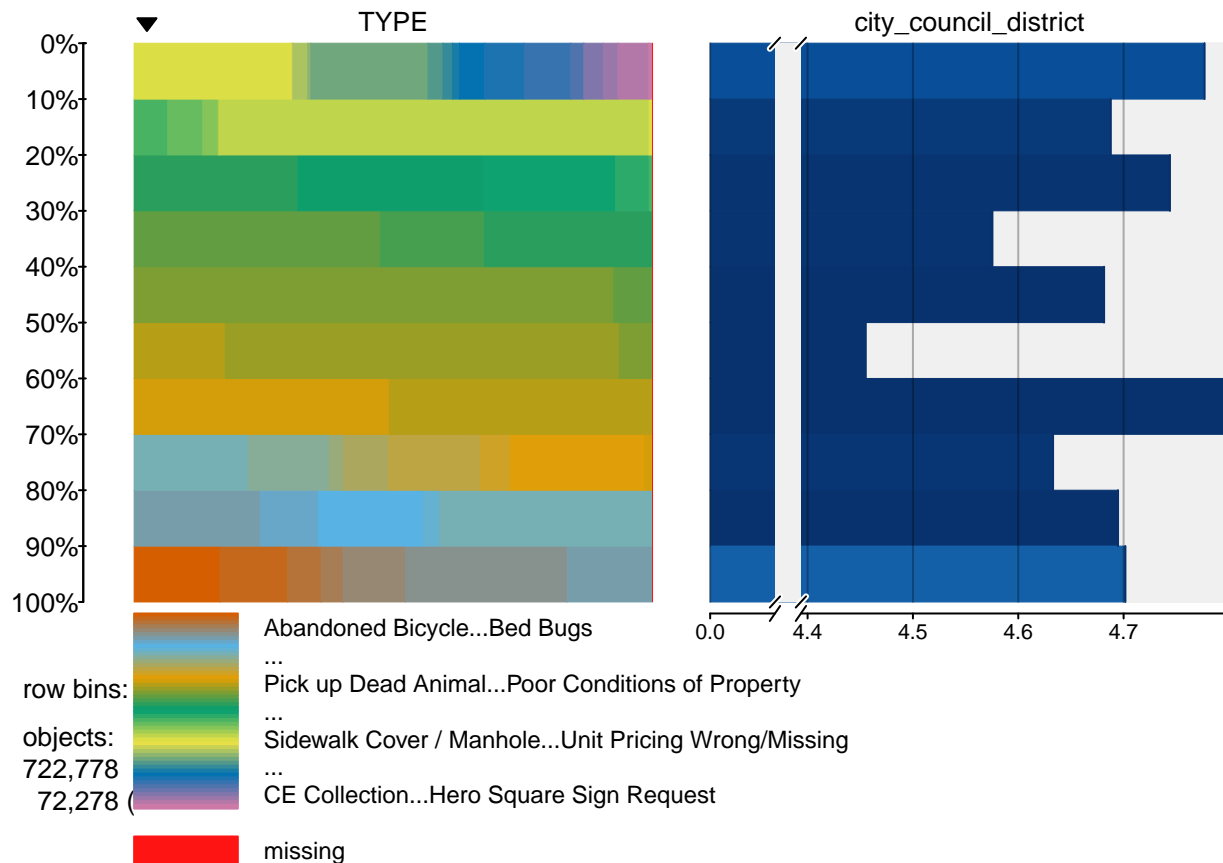
ontime <- requests$OnTime_Status
length(ontime)

```
## [1] 722778
```

colnames(requests)

```
##  [1] "CASE_ENQUIRY_ID"                "OPEN_DT"
##  [3] "TARGET_DT"                      "CLOSED_DT"
##  [5] "OnTime_Status"                  "CASE_STATUS"
##  [7] "CLOSURE_REASON"                 "CASE_TITLE"
##  [9] "SUBJECT"                        "REASON"
## [11] "TYPE"                           "QUEUE"
## [13] "Department"                     "SubmittedPhoto"
## [15] "ClosedPhoto"                    "Location"
## [17] "fire_district"                  "pwd_district"
## [19] "city_council_district"         "police_district"
## [21] "neighborhood"                   "neighborhood_services_district"
## [23] "ward"                           "precinct"
## [25] "land_usage"                     "LOCATION_STREET_NAME"
## [27] "LOCATION_ZIPCODE"               "Property_Type"
## [29] "Property_ID"                    "LATITUDE"
## [31] "LONGITUDE"                      "Source"
## [33] "Geocoded_Location"
```

```r
tableplot(requests,select = c(11,19),nBins=10)
```

```
## Warning in grid.Call(L_convert, x, as.integer(whatfrom),
## as.integer(whatto), : font width unknown for character 0x9
```

```r
p <- requests$precinct
str(p)
```

```
##  list()
##  - attr(*, "physical")=Class 'ff_pointer' <externalptr>
##   ..- attr(*, "vmode")= chr "integer"
##   ..- attr(*, "maxlength")= int 722778
##   ..- attr(*, "pattern")= chr "ffdf"
##   ..- attr(*, "filename")= chr "/private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/:
##   ..- attr(*, "pagesize")= int 65536
##   ..- attr(*, "finalizer")= chr "close"
##   ..- attr(*, "finonexit")= logi TRUE
##   ..- attr(*, "readonly")= logi FALSE
##   ..- attr(*, "caching")= chr "mmnoflush"
##  - attr(*, "virtual")= list()
##   ..- attr(*, "Length")= int 722778
##   ..- attr(*, "Symmetric")= logi FALSE
##   ..- attr(*, "class")= chr "virtual"
##  - attr(*, "class") =  chr [1:2] "ff_vector" "ff"
```

```r
length(p)
```

```
## [1] 722778
```

```r
head(p)
```

```
## [1] 1714 2008 2017 1816 1309 1006
```

```r
levels.ff(ontime)
```

```
## [1] ""        "ONTIME"  "OVERDUE"
```

```r
sum(ontime[1:722778]=="ONTIME")
```

```
## [1] 568475
```

```r
ffsave(requests, file="req")
```

```
##  [1] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68513dd83ae0.:
##  [2] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68513f0167d8.:
##  [3] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517548b638.:
##  [4] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685178b352af.:
##  [5] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685144f99d11.:
##  [6] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515fb6ea77.:
##  [7] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685161db5bb8.:
##  [8] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851862bf39.f:
##  [9] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851af83b7c.f:
## [10] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68512f094f84.:
## [11] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851c437b3c.f:
```

```
## [12] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851224fa66e.:
## [13] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68511b37915b.:
## [14] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515d27fb52.:
## [15] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68516be4f445.:
## [16] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851461155a.f:
## [17] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68511c0c9f5.f:
## [18] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851180af4b9.:
## [19] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517748aa03.:
## [20] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68514391e823.:
## [21] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851201f747d.:
## [22] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517118cb04.:
## [23] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685112b8ad9e.:
## [24] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68511a8e69ac.:
## [25] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517bbba8d2.:
## [26] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515d48b274.:
## [27] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68514fbc0d84.:
## [28] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851431b7e01.:
## [29] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685141ed9612.:
## [30] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515517998e.:
## [31] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851626547.ff :
## [32] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68513be71883.:
## [33] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685140fa5f2e.:
```

```r
reqs <- ffload("req")
```

```
## Warning in FUN(X[[i]], ...): did not overwrite object 'requests'
```

```r
# Start the clock!
ptm <- proc.time()
sum(ontime[1:722778]=="ONTIME")
```

```
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685144f99d11.ff
```

```
## [1] 568475
```

```r
# Stop the clock
proc.time() - ptm
```

```
##    user  system elapsed
##   0.109   0.012   0.202
```

```r
system.time(sum(ontime[1:722778]=="ONTIME"))
```

```
##    user  system elapsed
##   0.129   0.003   0.131
```

```r
length(requests$precinct)
```
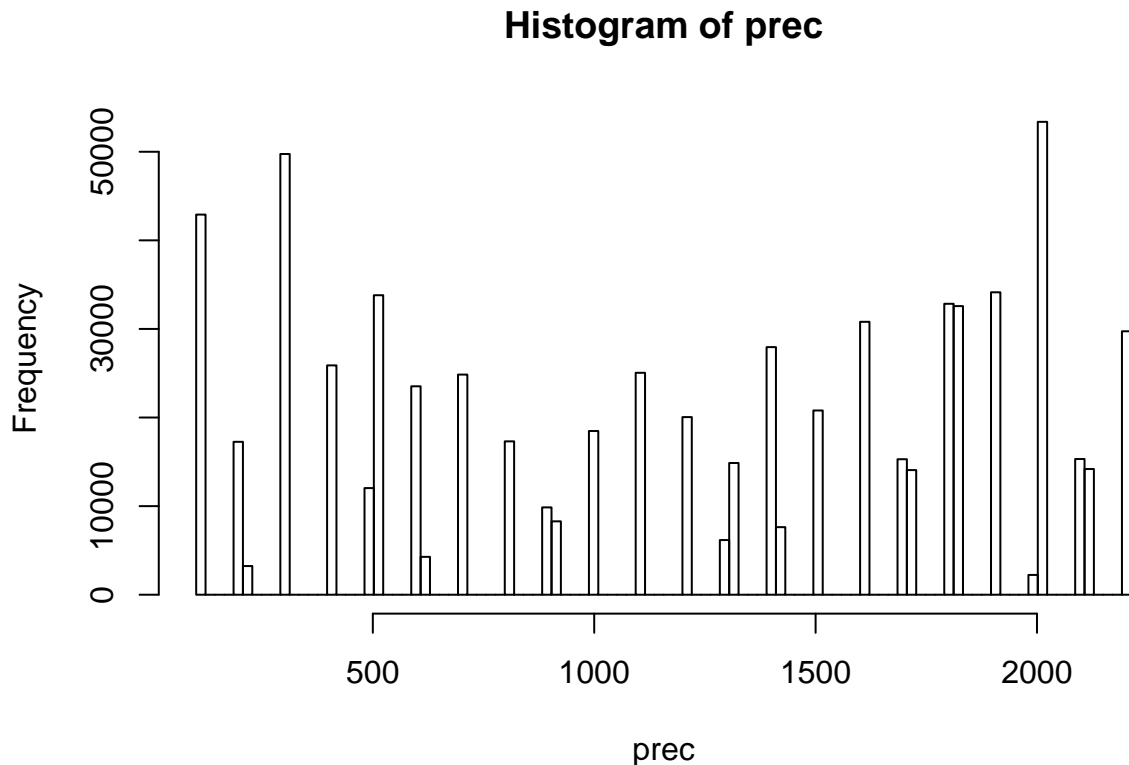
```
## [1] 722778
```

```r
any(requests$precinct,NA)
```

```
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68511a8e69ac.ff
```

```
## [1] TRUE
```

```r
prec <- requests$precinct[!is.na(requests$precinct)]
```

```r
hist(prec, plot = TRUE)
```


Histogram of prec

```r
################################################################################
str(requests[1:10,])
```

```
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68513dd83ae0.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68513f0167d8.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517548b638.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685178b352af.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515fb6ea77.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685161db5bb8.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851862bf39.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851af83b7c.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68512f094f84.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851c437b3c.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851224fa66e.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68511b37915b.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515d27fb52.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68516be4f445.ff
```

```
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851461155a.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68511c0c9f5.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851180af4b9.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517748aa03.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68514391e823.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851201f747d.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517118cb04.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685112b8ad9e.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517bbba8d2.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515d48b274.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68514fbc0d84.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851431b7e01.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685141ed9612.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515517998e.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851626547.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68513be71883.ff
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685140fa5f2e.ff


## 'data.frame':    10 obs. of  33 variables:
##  $ CASE_ENQUIRY_ID            : num  1.01e+11 1.01e+11 1.01e+11 1.01e+11 1.01e+11 ...
##  $ OPEN_DT                    : Factor w/ 701229 levels "07/01/2011 01:01:28 PM",..: 15 35 38 51 5
##  $ TARGET_DT                  : Factor w/ 394017 levels "","01/01/2013 01:13:08 PM",..: 2189 477 5
##  $ CLOSED_DT                  : Factor w/ 636836 levels "","01/02/2013 03:18:07 PM",..: 503 507 77
##  $ OnTime_Status              : Factor w/ 3 levels "","ONTIME","OVERDUE": 2 2 2 3 2 2 3 3 2 3
##  $ CASE_STATUS                : Factor w/ 2 levels "Closed","Open": 1 1 1 1 1 1 1 1 1 1
##  $ CLOSURE_REASON             : Factor w/ 234270 levels "","Case Closed",..: 1958 2295 1771 1398 0
##  $ CASE_TITLE                 : Factor w/ 6825 levels ".","Abandoned Bicycle",..: 357 316 222 357 
##  $ SUBJECT                    : Factor w/ 19 levels "Inspectional Services",..: 5 5 6 5 5 2 6 5 5
##  $ REASON                     : Factor w/ 63 levels "Abandoned Bicycle",..: 22 19 20 22 12 14 20 2
##  $ TYPE                       : Factor w/ 220 levels "Abandoned Bicycle",..: 102 91 51 102 31 58 5
##  $ QUEUE                      : Factor w/ 167 levels "BTDT_Abandoned Bicycle",..: 81 76 5 84 46 2
##  $ Department                 : Factor w/ 18 levels "BTDT","BWSC",..: 9 9 1 9 9 4 1 9 9 5
##  $ SubmittedPhoto             : logi  NA NA NA NA NA NA ...
##  $ ClosedPhoto                : logi  NA NA NA NA NA NA ...
##  $ Location                   : Factor w/ 111677 levels "","0 Blake St  Mattapan  MA  02126",..: 0
##  $ fire_district              : int  8 12 NA 12 7 9 4 9 7 1
##  $ pwd_district               : Factor w/ 14 levels "","02","03","04",..: 7 6 6 8 3 10 10 11 7 9
##  $ city_council_district      : int  3 5 6 5 3 6 8 7 3 1
##  $ police_district            : Factor w/ 24 levels "","A1","A15",..: 6 13 13 12 7 11 10 11 7 4
##  $ neighborhood               : Factor w/ 24 levels "","Allston","Allston / Brighton",..: 13 18 23
##  $ neighborhood_services_district: int  7 10 12 10 7 11 14 13 7 1
##  $ ward                       : Factor w/ 54 levels "","01","02","03",..: 37 41 41 38 33 30 42 31 
##  $ precinct                   : int  1714 2008 2017 1816 1309 1006 2102 1103 1602 107
##  $ land_usage                 : Factor w/ 17 levels "","A","C","CC",..: 1 11 1 12 1 12 1 1 3 13
##  $ LOCATION_STREET_NAME       : Factor w/ 109756 levels "","0 Blake St",..: 6749 3653 6557 2380 60
##  $ LOCATION_ZIPCODE           : int  NA 2131 NA 2136 NA 2130 NA NA 2122 2128
##  $ Property_Type              : Factor w/ 3 levels "","Address","Intersection": 3 2 3 2 3 2 3 3 2
##  $ Property_ID                : int  5512 87461 3522 55708 4182 51077 617 1853 60876 274500
##  $ LATITUDE                   : num  42.3 42.3 42.3 42.2 42.3 ...
##  $ LONGITUDE                  : num  -71.1 -71.1 -71.2 -71.1 -71.1 ...
##  $ Source                     : Factor w/ 7 levels "Citizens Connect App",..: 3 5 5 5 2 2 5 2 3 5
##  $ Geocoded_Location          : Factor w/ 96601 levels "(0, 0)","(42.2333, -71.1323)",..: 553 1294
```

```r
# $ OnTime_Status: Factor w/ 3 levels "","ONTIME","OVERDUE": 2 2 2 3 2 2 3 3 2 3

ontime <- requests$OnTime_Status
length(ontime)
```

```
## [1] 722778
```

```r
str(ontime)
```

```
##  list()
##  - attr(*, "physical")=Class 'ff_pointer' <externalptr>
##    ..- attr(*, "vmode")= chr "integer"
##    ..- attr(*, "maxlength")= int 722778
##    ..- attr(*, "pattern")= chr "ffdf"
##    ..- attr(*, "filename")= chr "/private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/:
##    ..- attr(*, "pagesize")= int 65536
##    ..- attr(*, "finalizer")= chr "close"
##    ..- attr(*, "finonexit")= logi TRUE
##    ..- attr(*, "readonly")= logi FALSE
##    ..- attr(*, "caching")= chr "mmnoflush"
##  - attr(*, "virtual")= list()
##    ..- attr(*, "Length")= int 722778
##    ..- attr(*, "Symmetric")= logi FALSE
##    ..- attr(*, "Levels")= chr [1:3] "" "ONTIME" "OVERDUE"
##    ..- attr(*, "ramclass")= chr "factor"
##    ..- attr(*, "class")= chr "virtual"
##  - attr(*, "class") =  chr [1:2] "ff_vector" "ff"
```

```r
length(ontime) #722778
```

```
## [1] 722778
```

```r
head(ontime)
```

```
## [1] ONTIME  ONTIME  ONTIME  OVERDUE ONTIME  ONTIME
## Levels:  ONTIME OVERDUE
```

```r
levels.ff(ontime)
```

```
## [1] ""        "ONTIME"  "OVERDUE"
```

```r
sum(ontime[1:722778]=="ONTIME") #568475
```

```
## [1] 568475
```

```r
sum(ontime[1:722778]=="OVERDUE") #153713
```

```
## [1] 153713
```

```r
sum(ontime[1:722778]=="") #590
```

```
## [1] 590
```

```r
568475+153713+590 #722778
```

```
## [1] 722778
```

```r
ffsave(requests, file="req")
```

```
##  [1] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68513dd83ae0.:
##  [2] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68513f0167d8.:
##  [3] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517548b638.:
##  [4] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685178b352af.:
##  [5] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685144f99d11.:
##  [6] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515fb6ea77.:
##  [7] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685161db5bb8.:
##  [8] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851862bf39.f:
##  [9] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851af83b7c.f:
## [10] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68512f094f84.:
## [11] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851c437b3c.f:
## [12] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851224fa66e.:
## [13] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68511b37915b.:
## [14] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515d27fb52.:
## [15] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68516be4f445.:
## [16] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851461155a.f:
## [17] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68511c0c9f5.f:
## [18] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851180af4b9.:
## [19] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517748aa03.:
## [20] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68514391e823.:
## [21] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851201f747d.:
## [22] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517118cb04.:
## [23] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685112b8ad9e.:
## [24] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68511a8e69ac.:
## [25] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517bbba8d2.:
## [26] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515d48b274.:
## [27] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68514fbc0d84.:
## [28] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851431b7e01.:
## [29] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685141ed9612.:
## [30] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515517998e.:
## [31] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851626547.ff
## [32] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68513be71883.:
## [33] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685140fa5f2e.:
```

```r
reqs <- ffload("req")
```

```
## Warning in FUN(X[[i]], ...): did not overwrite object 'requests'
```

```r
# Start the clock!
ptm <- proc.time()
sum(ontime[1:722778]=="ONTIME")
```

```
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685144f99d11.ff
```

```
## [1] 568475
```

```
# Stop the clock
proc.time() - ptm
```

```
##    user  system elapsed
##   0.093   0.024   0.543
```

```
system.time(sum(ontime[1:722778]=="ONTIME"))
```

```
##    user  system elapsed
##   0.085   0.002   0.087
```

```
# The variable city_council_district is not a factor.
length(requests$city_council_district)
```

```
## [1] 722778
```

```
str(requests$city_council_district)
```

```
##  list()
##  - attr(*, "physical")=Class 'ff_pointer' <externalptr>
##   ..- attr(*, "vmode")= chr "integer"
##   ..- attr(*, "maxlength")= int 722778
##   ..- attr(*, "pattern")= chr "ffdf"
##   ..- attr(*, "filename")= chr "/private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/:
##   ..- attr(*, "pagesize")= int 65536
##   ..- attr(*, "finalizer")= chr "close"
##   ..- attr(*, "finonexit")= logi TRUE
##   ..- attr(*, "readonly")= logi FALSE
##   ..- attr(*, "caching")= chr "mmnoflush"
##  - attr(*, "virtual")= list()
##   ..- attr(*, "Length")= int 722778
##   ..- attr(*, "Symmetric")= logi FALSE
##   ..- attr(*, "class")= chr "virtual"
##  - attr(*, "class") =  chr [1:2] "ff_vector" "ff"
```

```
head(requests$city_council_district)
```

```
## opening ff /private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517748aa03.ff
```

```
## [1] 3 5 6 5 3 6
```

```
any(requests$city_council_district,NA)
```
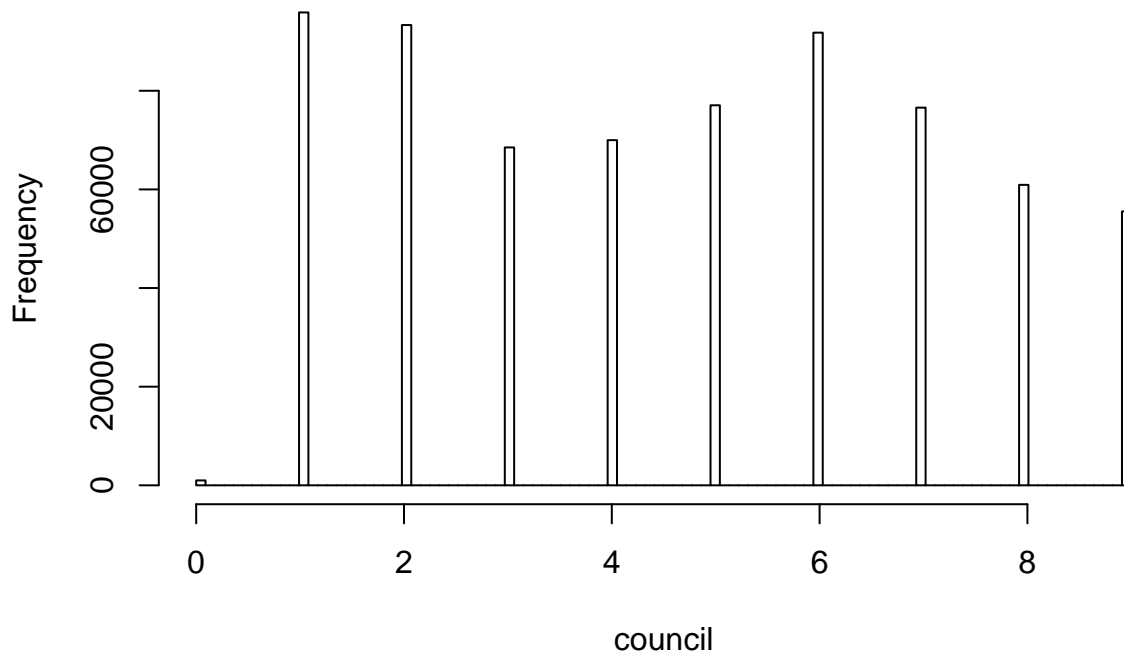
```
## [1] TRUE
```

```
council <- requests$city_council_district[!is.na(requests$city_council_district)]
hist(council, plot = TRUE)

# Start the clock!
ptm <- proc.time()
council <- requests$city_council_district[!is.na(requests$city_council_district)]
hist(council, plot = TRUE)
```

Histogram of council


```
# Stop the clock
proc.time() - ptm
```

```
##    user  system elapsed
##   0.349   0.052   0.481
```

```
ffsave(requests, file="req")
```

```
## [1] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68513dd83ae0.:
## [2] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68513f0167d8.:
## [3] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517548b638.:
## [4] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685178b352af.:
## [5] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685144f99d11.:
## [6] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515fb6ea77.:
## [7] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685161db5bb8.:
## [8] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851862bf39.f:
## [9] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851af83b7c.f:
## [10] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68512f094f84.:
## [11] "  adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851c437b3c.f:
```

```
## [12] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851224fa66e.:
## [13] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68511b37915b.:
## [14] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515d27fb52.:
## [15] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68516be4f445.:
## [16] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851461155a.f:
## [17] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68511c0c9f5.f:
## [18] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851180af4b9.:
## [19] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517748aa03.:
## [20] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68514391e823.:
## [21] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851201f747d.:
## [22] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517118cb04.:
## [23] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685112b8ad9e.:
## [24] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68511a8e69ac.:
## [25] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68517bbba8d2.:
## [26] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515d48b274.:
## [27] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68514fbc0d84.:
## [28] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851431b7e01.:
## [29] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685141ed9612.:
## [30] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68515517998e.:
## [31] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf6851626547.ff 
## [32] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf68513be71883.:
## [33] "   adding: private/var/folders/9m/5v4_k6dx1mx_szfqkpgmh6gh0000gn/T/RtmpgMDtam/ffdf685140fa5f2e.:
```

```r
reqs <- ffload("req")
```

```
## Warning in FUN(X[[i]], ...): did not overwrite object 'requests'
```