Jacob Dineen

**#HW 5**

**##Jacob Dineen**

Unexecuted Code on P1, Executed Code starts on P5

**UNEXECUTED CODE:**

**#CLEAR ENVIRONMENT AND INSTALL INITIAL PACKAGES**

**rm(list = ls(all = TRUE))#Clear Enviroment**

**install.packages("jsonlite")**

**library("jsonlite")**

**install.packages("RCurl")**

**library("RCurl")**

**# Step 1**

**#Save URL as vector**

**marylandurl <- "http://data.maryland.gov/api/views/pdvh-tf2u/rows.json?accessType=DOWNLOAD"**

**#Need to replace Nulls with NAs**

**#run/store json function to store data**

**apiresult <- getURL(marylandurl)**

**head(apiresult)**

**results<- fromJSON(apiresult) #Read JSON file into R**

**summary(results) #run summary on dataset**

**results[2]**

**alldata <- results$data #Remove metadata from data frame**

**numRows <-length(alldata) # count how many elements are in "myList" and store the number into variable "numRows"**

**#Run function to remove nulls and replace with 'NA'**

**for(i in 1:numRows) {**

**record <- alldata[[i]]**

**record[sapply(record, is.null)] <- NA**

**alldata[[i]] <- record**

**}**

**#Test to see if there's any nulls remaining**

**any(is.null(alldata))**

**#Remove nulls from df**

**alldata<- na.omit(alldata)**

**# Step 2**

**#remove first 8 columns**

**alldata <- alldata [,-1:-8]**

**#Rename all columns per document**

**colnames(alldata) <-c("CASE\_NUMBER","BARRACK","ACC\_DATE","ACC\_TIME","ACC\_TIME\_CODE","DAY\_OF\_WEEK","ROAD","INTERSECT\_ROAD","DIST\_FROM\_INTERSECT","DIST\_DIRECTION","CITY\_NAME","COUNTY\_CODE","COUNTY\_NAME","VEHICLE\_COUNT","PROP\_DEST","INJURY","COLLISION\_WITH\_1","COLLISION\_WITH\_2")**

**alldata**

**str(alldata)**

**dfaccidents <- data.frame(alldata, stringsAsFactors = FALSE) #STORE DF**

**dfaccidents #CALL DF**

**str(dfaccidents) #STR of DF**

**summary(dfaccidents)**

**#TRIM DATA**

**install.packages("stringr")**

**library("stringr")**

**str(dfaccidents) #STR of DF. Day of Week has prevalent blank spaces.**

**dfaccidents**

**data.frame(lapply(dfaccidents, trimws), stringsAsFactors = FALSE) #Function to remove white space from entire data frame. Researched on Stackoverflow.**

**dfaccidents <- data.frame(lapply(dfaccidents, trimws), stringsAsFactors = FALSE) #Store new dataframe trimming whitespace on df.**

**str(dfaccidents) #Now check structure to see if white spaces still prevalent. They are not.**

**###Step 3 SQLDF**

**install.packages("sqldf")**

**library("sqldf")**

**#Question1 . How many accidents happen on SUNDAY**

**sqldf("select count(\*) from dfaccidents WHERE DAY\_OF\_WEEK like '%SUNDAY%' ")**

**#OR**

**sqldf("select count(\*) from dfaccidents WHERE TRIM(DAY\_OF\_WEEK) = 'SUNDAY' ") #Only works after data trim**

**#SUNDAY had 2061 accidents**

**#Question 2 . How many accidents had injuries (might need to remove NAs from the data) Injury == YES**

**sqldf("select count(\*) from dfaccidents WHERE INJURY like '%YES%' ")**

**#OR**

**sqldf("select count(\*) from dfaccidents WHERE INJURY = 'YES' ") #Only works after data trim**

**## 5639 accidents had injuries.**

**#Question 3 . List the injuries by day. Injury == YES**

**sqldf("select count(dfaccidents.Injury), Day\_of\_week from dfaccidents where Injury = 'YES' group by DAY\_OF\_WEEK ") #Lists by DAY\_OF\_WEEK**

**##STEP 4 TAPPLY**

**#Question1 . How many accidents happen on SUNDAY**

**tapply(dfaccidents[dfaccidents$DAY\_OF\_WEEK=='SUNDAY',]$DAY\_OF\_WEEK,dfaccidents[dfaccidents$DAY\_OF\_WEEK=='SUNDAY',]$DAY\_OF\_WEEK,length) #Inside brackets act as filters.**

**#SUNDAY had 2061 accidents**

**#Question 2 Injury == YES**

**tapply(dfaccidents[dfaccidents$INJURY=='YES',]$INJURY,dfaccidents[dfaccidents$INJURY=='YES',]$INJURY,length) #Inside brackets act as filters.**

**## 5639 accidents had injuries.**

**#Question 3 . List the injuries by day Injury == YES**

**tapply(dfaccidents[dfaccidents$INJURY=='YES',]$INJURY,dfaccidents[dfaccidents$INJURY=='YES',]$DAY\_OF\_WEEK,length) #Inside brackets act as filters.**

**####ANSWERS ARE THE SAME USING SQLDF AND TAPPLY FUNCTIONS**

**EXECUTED CODE**

#CLEAR ENVIRONMENT AND INSTALL INITIAL PACKAGES

> rm(list = ls(all = TRUE))#Clear Enviroment

> install.packages("jsonlite")

Error in install.packages : Updating loaded packages

> library("jsonlite")

> install.packages("RCurl")

Error in install.packages : Updating loaded packages

> library("RCurl")

>

> # Step 1

> #Save URL as vector

> marylandurl <- "http://data.maryland.gov/api/views/pdvh-tf2u/rows.json?accessType=DOWNLOAD"

> #Need to replace Nulls with NAs

>

> #run/store json function to store data

> apiresult <- getURL(marylandurl)

> head(apiresult)

[1] "{\n \"meta\" : {\n \"view\" : {\n \"id\" : \"pdvh-tf2u\",\n \"name\" : \"2012 Vehicle Collisions Investigated by State Police\",\n \"attribution\" : \"Maryland State Police\",\n \"averageRating\" : 0,\n \"category\" : \"Public Safety\",\n \"createdAt\" : 1367604900,\n \"description\" : \"Collisions investigated by the Maryland State Police in 2012 (does not include collisions investigated by local jurisdictions).\",\n \"displayType\" : \"table\",\n \"downloadCount\" : 6143,\n \"hideFromCatalog\" : false,\n \"hideFromDataJson\" : false,\n \"iconUrl\" : \"fileId:XPC16bR4D0Vl9AmvgkR89yHTTeVCyRMEC-zy14yBp14\",\n \"indexUpdatedAt\" : 1496947910,\n \"licenseId\" : \"PUBLIC\_DOMAIN\",\n \"newBackend\" : false,\n \"numberOfComments\" : 3,\n \"oid\" : 3454679,\n \"provenance\" : \"official\",\n \"publicationAppendEnabled\" : false,\n \"publicationDate\" : 1367606740,\n \"publicationG... <truncated>

> results<- fromJSON(apiresult) #Read JSON file into R

> summary(results) #run summary on dataset

Length Class Mode

meta 1 -none- list

data 484588 -none- character

> alldata <- results$data #Remove metadata from data frame

>

> numRows <-length(alldata) # count how many elements are in "myList" and store the number into variable "numRows"

>

> #Run function to remove nulls and replace with 'NA'

> for(i in 1:numRows) {

+ record <- alldata[[i]]

+ record[sapply(record, is.null)] <- NA

+ alldata[[i]] <- record

+ }

>

> #Test to see if there's any nulls remaining

> any(is.null(alldata))

[1] FALSE

>

> #Remove nulls from df

> alldata<- na.omit(alldata)

>

> # Step 2

> #remove first 8 columns

> alldata <- alldata [,-1:-8]

>

> #Rename all columns per document

> colnames(alldata) <-c("CASE\_NUMBER","BARRACK","ACC\_DATE","ACC\_TIME","ACC\_TIME\_CODE","DAY\_OF\_WEEK","ROAD","INTERSECT\_ROAD","DIST\_FROM\_INTERSECT","DIST\_DIRECTION","CITY\_NAME","COUNTY\_CODE","COUNTY\_NAME","VEHICLE\_COUNT","PROP\_DEST","INJURY","COLLISION\_WITH\_1","COLLISION\_WITH\_2")

> alldata

CASE\_NUMBER BARRACK ACC\_DATE ACC\_TIME ACC\_TIME\_CODE DAY\_OF\_WEEK

[1,] "1363000002" "Rockville" "2012-01-01T00:00:00" "2:01" "1" "SUNDAY "

[2,] "1296000023" "Berlin" "2012-01-01T00:00:00" "18:01" "5" "SUNDAY "

[3,] "1283000016" "Prince Frederick" "2012-01-01T00:00:00" "7:01" "2" "SUNDAY "

[4,] "1282000006" "Leonardtown" "2012-01-01T00:00:00" "0:01" "1" "SUNDAY "

[5,] "1267000007" "Essex" "2012-01-01T00:00:00" "1:01" "1" "SUNDAY "

[6,] "1267000005" "Essex" "2012-01-01T00:00:00" "1:01" "1" "SUNDAY "

[7,] "1266000090" "College Park" "2012-01-01T00:00:00" "6:01" "2" "SUNDAY "

[8,] "1266000025" "College Park" "2012-01-01T00:00:00" "14:01" "4" "SUNDAY "

[9,] "1266000008" "College Park" "2012-01-01T00:00:00" "5:01" "2" "SUNDAY "

[10,] "1265000019" "Glen Burnie" "2012-01-01T00:00:00" "17:01" "5" "SUNDAY "

[11,] "1265000016" "Glen Burnie" "2012-01-01T00:00:00" "15:01" "4" "SUNDAY "

[12,] "1265000009" "Glen Burnie" "2012-01-01T00:00:00" "4:01" "2" "SUNDAY "

[13,] "1265000003" "Glen Burnie" "2012-01-01T00:00:00" "1:01" "1" "SUNDAY "

[14,] "1263000017" "Rockville" "2012-01-01T00:00:00" "18:01" "5" "SUNDAY "

[15,] "1262000031" "JFK" "2012-01-01T00:00:00" "17:01" "5" "SUNDAY "

[16,] "1261000009" "Forestville" "2012-01-01T00:00:00" "4:01" "2" "SUNDAY "

[17,] "1257000017" "Waldorf" "2012-01-01T00:00:00" "21:01" "6" "SUNDAY "

[18,] "1257000016" "Waldorf" "2012-01-01T00:00:00" "20:01" "6" "SUNDAY "

[19,] "1256000030" "Westminster" "2012-01-01T00:00:00" "20:01" "6" "SUNDAY "

[20,] "1255000035" "North East" "2012-01-01T00:00:00" "17:01" "5" "SUNDAY "

[21,] "1255000021" "North East" "2012-01-01T00:00:00" "9:01" "3" "SUNDAY "

[22,] "1255000014" "North East" "2012-01-01T00:00:00" "4:01" "2" "SUNDAY "

[23,] "1253000018" "Bel Air" "2012-01-01T00:00:00" "2:01" "1" "SUNDAY "

[24,] "1251000052" "Frederick" "2012-01-01T00:00:00" "9:01" "3" "SUNDAY "

[25,] "1251000025" "Frederick" "2012-01-01T00:00:00" "3:01" "1" "SUNDAY "

[26,] "1250000026" "Jessup" "2012-01-01T00:00:00" "15:01" "4" "SUNDAY "

[27,] "1250000025" "Jessup" "2012-01-01T00:00:00" "15:01" "4" "SUNDAY "

[28,] "1250000020" "Jessup" "2012-01-01T00:00:00" "14:01" "4" "SUNDAY "

[29,] "1362000042" "JFK" "2012-01-02T00:00:00" "8:01" "3" "MONDAY "

[30,] "1352000046" "Cumberland" "2012-01-02T00:00:00" "22:01" "6" "MONDAY "

[31,] "1351000186" "Frederick" "2012-01-02T00:00:00" "17:01" "5" "MONDAY "

[32,] "1294000039" "McHenry" "2012-01-02T00:00:00" "22:01" "6" "MONDAY "

[33,] "1283000047" "Prince Frederick" "2012-01-02T00:00:00" "5:01" "2" "MONDAY "

[34,] "1282000049" "Leonardtown" "2012-01-02T00:00:00" "7:01" "2" "MONDAY "

[35,] "1280000050" "Centreville" "2012-01-02T00:00:00" "17:01" "5" "MONDAY "

[36,] "1267000044" "Essex" "2012-01-02T00:00:00" "13:01" "4" "MONDAY "

[37,] "1267000039" "Essex" "2012-01-02T00:00:00" "9:01" "3" "MONDAY "

[38,] "1266000054" "College Park" "2012-01-02T00:00:00" "3:01" "1" "MONDAY "

[39,] "1265000046" "Glen Burnie" "2012-01-02T00:00:00" "15:01" "4" "MONDAY "

[40,] "1265000032" "Glen Burnie" "2012-01-02T00:00:00" "6:01" "2" "MONDAY "

[41,] "1264000084" "Hagerstown" "2012-01-02T00:00:00" "17:01" "5" "MONDAY "

[42,] "1263000025" "Rockville" "2012-01-02T00:00:00" "11:01" "3" "MONDAY "

[43,] "1262000072" "JFK" "2012-01-02T00:00:00" "17:01" "5" "MONDAY "

[44,] "1261000035" "Forestville" "2012-01-02T00:00:00" "20:01" "6" "MONDAY "

[45,] "1261000028" "Forestville" "2012-01-02T00:00:00" "13:01" "4" "MONDAY "

[46,] "1257000025" "Waldorf" "2012-01-02T00:00:00" "17:01" "5" "MONDAY "

[47,] "1257000021" "Waldorf" "2012-01-02T00:00:00" "14:01" "4" "MONDAY "

[48,] "1257000020" "Waldorf" "2012-01-02T00:00:00" "12:01" "4" "MONDAY "

[49,] "1255000068" "North East" "2012-01-02T00:00:00" "14:01" "4" "MONDAY "

[50,] "1253000038" "Bel Air" "2012-01-02T00:00:00" "17:01" "5" "MONDAY "

[51,] "1252000055" "Cumberland" "2012-01-02T00:00:00" "15:01" "4" "MONDAY "

[52,] "1252000027" "Cumberland" "2012-01-02T00:00:00" "12:01" "4" "MONDAY "

[53,] "1251000203" "Frederick" "2012-01-02T00:00:00" "16:01" "5" "MONDAY "

[54,] "1250000047" "Jessup" "2012-01-02T00:00:00" "15:01" "4" "MONDAY "

[55,] "1296000058" "Berlin" "2012-01-03T00:00:00" "16:01" "5" "TUESDAY "

ROAD INTERSECT\_ROAD DIST\_FROM\_INTERSECT DIST\_DIRECTION

[1,] "IS 00495 CAPITAL BELTWAY" "IS 00270 EISENHOWER MEMORIAL" "0" "U"

[2,] "MD 00090 OCEAN CITY EXPWY" "CO 00220 ST MARTINS NECK RD" "0.25" "W"

[3,] "MD 00765 MAIN ST" "CO 00208 DUKE ST" "100" "S"

[4,] "MD 00944 MERVELL DEAN RD" "MD 00235 THREE NOTCH RD" "10" "E"

[5,] "IS 00695 BALTO BELTWAY" "IS 00083 HARRISBURG EXPWY" "100" "S"

[6,] "IS 00070 NO NAME" "IS 00695 BALTO BELTWAY" "1.5" "S"

[7,] "IS 00095 NO NAME" "CO 00014 CHERRY HILL RD" "0.25" "S"

[8,] "US 00050 JOHN HANSON HWY" "MD 00410 VETERANS PKWY" "0.25" "E"

[9,] "IS 00095 CAPITAL BELTWAY" "MD 00201 KENILWORTH AVE" "0.25" "N"

[10,] "RP 00097 RAMP IS 97 TO MD 176" "MD 00176 DORSEY RD" "100" "W"

[11,] "MD 00295 BALT WASH PKWY" "IS 00695 BALTO BELTWAY" "500" "N"

[12,] "MD 00695 BALTO BELTWAY" "MD 00010 ARUNDEL EXPWY" "0" "U"

[13,] "MD 00295 BALT0 WASH PKWY" "UU 00000 STRUC OVER MD 295" "0.3" "N"

[14,] "IS 00495 CAPITAL BELTWAY" "CO 07073 SEMINARY RD" "0.3" "W"

[15,] "IS 00095 J F K MEMORIAL HWY" "UU 00000 MILE MARKER 92.0" "0.6" "S"

[16,] "IS 00095 CAPITAL BELTWAY" "MD 00414 ST BARNABAS RD" "200" "N"

[17,] "MD 00229 BENSVILLE RD" "MD 00227 MARSHALL CORNER RD" "0" "U"

[18,] "MD 00228 BERRY RD" "MD 00229 BENSVILLE RD" "10" "W"

[19,] "MD 00097 Littlestown Pike" "CO 00075 Pleasant Valley Road" "5" "N"

[20,] "MD 00213 AUGUSTINE HERMAN HWY" "CO 00295 GLEBE RD" "500" "S"

[21,] "MD 00274 JOSEPH BIGGS HWY" "CO 00028 PIERCE RD" "0.25" "E"

[22,] "MD 00272 NORTH EAST RD" "CO 00064 ENGLAND CREAMERY RD" "0" "U"

[23,] "CO 00290 FRANKLINVILLE RD" "MD 00152 MOUNTAIN RD" "0.2" "W"

[24,] "MD 00180 JEFFERSON PIKE" "RP 01015 RAMP US 15 TO MD 180" "0" "U"

[25,] "MD 00026 LIBERTY RD" "UU 00000 STR#10025 MON RIVER" "0" "U"

[26,] "IS 00095 NO NAME" "RP 00095 RAMP FR IS95 TO MD32" "0" "U"

[27,] "IS 00095 No Name" "CO 00136 Montgomery Road" "0" "N"

[28,] "IS 00070 NO NAME" "CO 00070 MARRIOTTSVILLE RD" "2" "E"

[29,] "IS 00095 J F K MEMORIAL HWY" "UU 00000 INTERSTATE MM 99.0" "0" "U"

[30,] "IS 00068 NATIONAL FREEWAY" "UU 00000 EXIT #42" "0.5" "W"

[31,] "IS 00070 EISENHOWER MEM HWY" "RP 00070 RAMP US 15 TO IS 70" "0" "U"

[32,] "CO 00091 UNDERWOOD RD" "CO 00094 MONTE VISTA RD" "0.5" "S"

[33,] "MD 00002 SOLOMONS ISLAND RD" "MD 00002 PARRAN RD" "75" "S"

[34,] "MD 00005 POINT LOOKOUT RD" "MD 00244 MEDLEYS NECK RD" "500" "N"

[35,] "MD 00213 CENTREVILLE RD" "RP 01301 RAMP MD213 TO US301" "15" "N"

[36,] "IS 00070 NO NAME" "IS 00695 BALTO BELTWAY" "1.5" "E"

[37,] "IS 00695 BALTO BELTWAY" "MD 00372 WILKENS AVE" "0.5" "W"

[38,] "IS 00595 JOHN HANSON HWY" "MD 00193 ENTERPRISE RD" "0.3" "W"

[39,] "IS 00595 JOHN HANSON HWY" "MD 00450 WEST ST" "5" "W"

[40,] "IS 00097 NO NAME" "SR 00031 FARM RD" "0.5" "N"

[41,] "IS 00068 NATIONAL FREEWAY" "MD 00144 WESTERN PIKE" "0.5" "W"

[42,] "IS 00270 EISENHOWER MEM HGY" "UU 00000 EXIT #11" "1" "N"

[43,] "IS 00095 J F K MEMORIAL HWY" "CO 00079 RED TOAD RD" "1.5" "S"

[44,] "IS 00095 CAPITAL BELTWAY" "CO 00974 RITCHIE MARLBORO RD" "1000" "S"

[45,] "MD 00005 BRANCH AVE" "CO 00599 BRANDYWINE RD" "15" "S"

[46,] "US 00301 CRAIN HWY" "CO 00260 VFW RD" "0.25" "S"

[47,] "MD 00005 LEONARDTOWN RD" "US 00301 CRAIN HWY" "25" "S"

[48,] "MD 00225 HAWTHORNE RD" "CO 00137 MARSHALLS CORNER RD" "0" "U"

[49,] "MD 00272 NORTH EAST RD" "CO 00129 NAZARENE CAMP RD" "0" "N"

[50,] "MD 00924 EMMORTON RD" "MD 00024 VIET VETS MEM HWY" "0" "U"

[51,] "US 00220 MCMULLEN HWY" "CO 00269 LONE OAK LN" "0" "U"

[52,] "IS 00068 NATIONAL FREEWAY" "CO 00094 MIDLOTHIAN RD" "0" "U"

[53,] "MD 00026 LIBERTY RD" "MD 00355 WORMANS MILL RD" "0.1" "E"

[54,] "MD 00100 NO NAME" "US 00001 WASHINGTON BLVD" "0.1" "E"

[55,] "MD 00610 WHALEYVILLE RD" "CO 00244 PEERLESS RD" "0.3" "E"

CITY\_NAME COUNTY\_CODE COUNTY\_NAME VEHICLE\_COUNT PROP\_DEST INJURY COLLISION\_WITH\_1 COLLISION\_WITH\_2

[1,] "Not Applicable" "15" "Montgomery" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[2,] "Not Applicable" "23" "Worcester" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[3,] "Not Applicable" "4" "Calvert" "1" "YES" "NO" "FIXED OBJ" "FIXED OBJ"

[4,] "Not Applicable" "18" "St. Marys" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[5,] "Not Applicable" "3" "Baltimore" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[6,] "Not Applicable" "3" "Baltimore" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[7,] "Not Applicable" "16" "Prince Georges" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[8,] "Not Applicable" "16" "Prince Georges" "1" "YES" "YES" "FIXED OBJ" "OTHER-COLLISION"

[9,] "Not Applicable" "16" "Prince Georges" "2" "NO" "NO" "VEH" "OTHER-COLLISION"

[10,] "Not Applicable" "2" "Anne Arundel" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[11,] "Not Applicable" "2" "Anne Arundel" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[12,] "Not Applicable" "2" "Anne Arundel" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[13,] "Not Applicable" "2" "Anne Arundel" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[14,] "Not Applicable" "15" "Montgomery" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[15,] "Not Applicable" "7" "Cecil" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[16,] "Not Applicable" "16" "Prince Georges" "2" "NO" "NO" "VEH" "OTHER-COLLISION"

[17,] "Not Applicable" "8" "Charles" "1" "YES" "NO" "OTHER-COLLISION" "FIXED OBJ"

[18,] "Not Applicable" "8" "Charles" "2" "NO" "NO" "VEH" "OTHER-COLLISION"

[19,] "Not Applicable" "6" "Carroll" "1" "YES" "NO" "ANIMAL" "OTHER-COLLISION"

[20,] "Not Applicable" "7" "Cecil" "1" "YES" "NO" "OTHER-COLLISION" "OTHER-COLLISION"

[21,] "Not Applicable" "7" "Cecil" "1" "YES" "NO" "OTHER-COLLISION" "FIXED OBJ"

[22,] "Not Applicable" "7" "Cecil" "1" "NO" "NO" "OTHER-COLLISION" "OTHER-COLLISION"

[23,] "Not Applicable" "12" "Harford" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[24,] "Not Applicable" "10" "Frederick" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[25,] "Not Applicable" "10" "Frederick" "1" "NO" "YES" "FIXED OBJ" "FIXED OBJ"

[26,] "Not Applicable" "13" "Howard" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[27,] "Not Applicable" "13" "Howard" "4" "YES" "NO" "VEH" "OTHER-COLLISION"

[28,] "Not Applicable" "13" "Howard" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[29,] "Not Applicable" "7" "Cecil" "1" "YES" "NO" "OTHER-COLLISION" "OTHER-COLLISION"

[30,] "Not Applicable" "1" "Allegany" "1" "YES" "NO" "FIXED OBJ" "NON-COLLISION"

[31,] "Not Applicable" "10" "Frederick" "1" "NO" "YES" "FIXED OBJ" "OTHER-COLLISION"

[32,] "Not Applicable" "11" "Garrett" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[33,] "Not Applicable" "4" "Calvert" "1" "YES" "NO" "FIXED OBJ" "FIXED OBJ"

[34,] "Not Applicable" "18" "St. Marys" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[35,] "Not Applicable" "17" "Queen Annes" "1" "YES" "NO" "OTHER-COLLISION" "FIXED OBJ"

[36,] "Not Applicable" "3" "Baltimore" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[37,] "Not Applicable" "3" "Baltimore" "1" "YES" "NO" "VEH" "OTHER-COLLISION"

[38,] "Not Applicable" "16" "Prince Georges" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[39,] "Not Applicable" "2" "Anne Arundel" "4" "YES" "NO" "VEH" "VEH"

[40,] "Not Applicable" "2" "Anne Arundel" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[41,] "Not Applicable" "21" "Washington" "1" "YES" "NO" "ANIMAL" "OTHER-COLLISION"

[42,] "Not Applicable" "15" "Montgomery" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[43,] "Not Applicable" "7" "Cecil" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[44,] "Not Applicable" "16" "Prince Georges" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[45,] "Not Applicable" "16" "Prince Georges" "3" "NO" "YES" "VEH" "FIXED OBJ"

[46,] "Not Applicable" "8" "Charles" "3" "NO" "YES" "VEH" "OTHER-COLLISION"

[47,] "Not Applicable" "8" "Charles" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[48,] "Not Applicable" "8" "Charles" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[49,] "Not Applicable" "7" "Cecil" "2" "YES" "NO" "VEH" "OTHER-COLLISION"

[50,] "Not Applicable" "12" "Harford" "2" "NO" "YES" "VEH" "OTHER-COLLISION"

[51,] "Not Applicable" "1" "Allegany" "2" "NO" "YES" "VEH" "OTHER-COLLISION"

[52,] "Not Applicable" "1" "Allegany" "1" "YES" "NO" "FIXED OBJ" "OTHER-COLLISION"

[53,] "Not Applicable" "10" "Frederick" "3" "YES" "NO" "VEH" "VEH"

[54,] "Not Applicable" "13" "Howard" "1" "NO" "YES" "FIXED OBJ" "OTHER-COLLISION"

[55,] "Not Applicable" "23" "Worcester" "2" "NO" "YES" "VEH" "FIXED OBJ"

[ reached getOption("max.print") -- omitted 16208 rows ]

> str(alldata)

chr [1:16263, 1:18] "1363000002" "1296000023" "1283000016" "1282000006" "1267000007" "1267000005" ...

- attr(\*, "dimnames")=List of 2

..$ : NULL

..$ : chr [1:18] "CASE\_NUMBER" "BARRACK" "ACC\_DATE" "ACC\_TIME" ...

>

> dfaccidents <- data.frame(alldata, stringsAsFactors = FALSE) #STORE DF

> dfaccidents #CALL DF

CASE\_NUMBER BARRACK ACC\_DATE ACC\_TIME ACC\_TIME\_CODE DAY\_OF\_WEEK ROAD

1 1363000002 Rockville 2012-01-01T00:00:00 2:01 1 SUNDAY IS 00495 CAPITAL BELTWAY

2 1296000023 Berlin 2012-01-01T00:00:00 18:01 5 SUNDAY MD 00090 OCEAN CITY EXPWY

3 1283000016 Prince Frederick 2012-01-01T00:00:00 7:01 2 SUNDAY MD 00765 MAIN ST

4 1282000006 Leonardtown 2012-01-01T00:00:00 0:01 1 SUNDAY MD 00944 MERVELL DEAN RD

5 1267000007 Essex 2012-01-01T00:00:00 1:01 1 SUNDAY IS 00695 BALTO BELTWAY

6 1267000005 Essex 2012-01-01T00:00:00 1:01 1 SUNDAY IS 00070 NO NAME

7 1266000090 College Park 2012-01-01T00:00:00 6:01 2 SUNDAY IS 00095 NO NAME

8 1266000025 College Park 2012-01-01T00:00:00 14:01 4 SUNDAY US 00050 JOHN HANSON HWY

9 1266000008 College Park 2012-01-01T00:00:00 5:01 2 SUNDAY IS 00095 CAPITAL BELTWAY

10 1265000019 Glen Burnie 2012-01-01T00:00:00 17:01 5 SUNDAY RP 00097 RAMP IS 97 TO MD 176

11 1265000016 Glen Burnie 2012-01-01T00:00:00 15:01 4 SUNDAY MD 00295 BALT WASH PKWY

12 1265000009 Glen Burnie 2012-01-01T00:00:00 4:01 2 SUNDAY MD 00695 BALTO BELTWAY

13 1265000003 Glen Burnie 2012-01-01T00:00:00 1:01 1 SUNDAY MD 00295 BALT0 WASH PKWY

14 1263000017 Rockville 2012-01-01T00:00:00 18:01 5 SUNDAY IS 00495 CAPITAL BELTWAY

15 1262000031 JFK 2012-01-01T00:00:00 17:01 5 SUNDAY IS 00095 J F K MEMORIAL HWY

16 1261000009 Forestville 2012-01-01T00:00:00 4:01 2 SUNDAY IS 00095 CAPITAL BELTWAY

17 1257000017 Waldorf 2012-01-01T00:00:00 21:01 6 SUNDAY MD 00229 BENSVILLE RD

18 1257000016 Waldorf 2012-01-01T00:00:00 20:01 6 SUNDAY MD 00228 BERRY RD

19 1256000030 Westminster 2012-01-01T00:00:00 20:01 6 SUNDAY MD 00097 Littlestown Pike

20 1255000035 North East 2012-01-01T00:00:00 17:01 5 SUNDAY MD 00213 AUGUSTINE HERMAN HWY

21 1255000021 North East 2012-01-01T00:00:00 9:01 3 SUNDAY MD 00274 JOSEPH BIGGS HWY

22 1255000014 North East 2012-01-01T00:00:00 4:01 2 SUNDAY MD 00272 NORTH EAST RD

23 1253000018 Bel Air 2012-01-01T00:00:00 2:01 1 SUNDAY CO 00290 FRANKLINVILLE RD

24 1251000052 Frederick 2012-01-01T00:00:00 9:01 3 SUNDAY MD 00180 JEFFERSON PIKE

25 1251000025 Frederick 2012-01-01T00:00:00 3:01 1 SUNDAY MD 00026 LIBERTY RD

26 1250000026 Jessup 2012-01-01T00:00:00 15:01 4 SUNDAY IS 00095 NO NAME

27 1250000025 Jessup 2012-01-01T00:00:00 15:01 4 SUNDAY IS 00095 No Name

28 1250000020 Jessup 2012-01-01T00:00:00 14:01 4 SUNDAY IS 00070 NO NAME

29 1362000042 JFK 2012-01-02T00:00:00 8:01 3 MONDAY IS 00095 J F K MEMORIAL HWY

30 1352000046 Cumberland 2012-01-02T00:00:00 22:01 6 MONDAY IS 00068 NATIONAL FREEWAY

31 1351000186 Frederick 2012-01-02T00:00:00 17:01 5 MONDAY IS 00070 EISENHOWER MEM HWY

32 1294000039 McHenry 2012-01-02T00:00:00 22:01 6 MONDAY CO 00091 UNDERWOOD RD

33 1283000047 Prince Frederick 2012-01-02T00:00:00 5:01 2 MONDAY MD 00002 SOLOMONS ISLAND RD

34 1282000049 Leonardtown 2012-01-02T00:00:00 7:01 2 MONDAY MD 00005 POINT LOOKOUT RD

35 1280000050 Centreville 2012-01-02T00:00:00 17:01 5 MONDAY MD 00213 CENTREVILLE RD

36 1267000044 Essex 2012-01-02T00:00:00 13:01 4 MONDAY IS 00070 NO NAME

37 1267000039 Essex 2012-01-02T00:00:00 9:01 3 MONDAY IS 00695 BALTO BELTWAY

38 1266000054 College Park 2012-01-02T00:00:00 3:01 1 MONDAY IS 00595 JOHN HANSON HWY

39 1265000046 Glen Burnie 2012-01-02T00:00:00 15:01 4 MONDAY IS 00595 JOHN HANSON HWY

40 1265000032 Glen Burnie 2012-01-02T00:00:00 6:01 2 MONDAY IS 00097 NO NAME

41 1264000084 Hagerstown 2012-01-02T00:00:00 17:01 5 MONDAY IS 00068 NATIONAL FREEWAY

42 1263000025 Rockville 2012-01-02T00:00:00 11:01 3 MONDAY IS 00270 EISENHOWER MEM HGY

43 1262000072 JFK 2012-01-02T00:00:00 17:01 5 MONDAY IS 00095 J F K MEMORIAL HWY

44 1261000035 Forestville 2012-01-02T00:00:00 20:01 6 MONDAY IS 00095 CAPITAL BELTWAY

45 1261000028 Forestville 2012-01-02T00:00:00 13:01 4 MONDAY MD 00005 BRANCH AVE

46 1257000025 Waldorf 2012-01-02T00:00:00 17:01 5 MONDAY US 00301 CRAIN HWY

47 1257000021 Waldorf 2012-01-02T00:00:00 14:01 4 MONDAY MD 00005 LEONARDTOWN RD

48 1257000020 Waldorf 2012-01-02T00:00:00 12:01 4 MONDAY MD 00225 HAWTHORNE RD

49 1255000068 North East 2012-01-02T00:00:00 14:01 4 MONDAY MD 00272 NORTH EAST RD

50 1253000038 Bel Air 2012-01-02T00:00:00 17:01 5 MONDAY MD 00924 EMMORTON RD

51 1252000055 Cumberland 2012-01-02T00:00:00 15:01 4 MONDAY US 00220 MCMULLEN HWY

52 1252000027 Cumberland 2012-01-02T00:00:00 12:01 4 MONDAY IS 00068 NATIONAL FREEWAY

53 1251000203 Frederick 2012-01-02T00:00:00 16:01 5 MONDAY MD 00026 LIBERTY RD

54 1250000047 Jessup 2012-01-02T00:00:00 15:01 4 MONDAY MD 00100 NO NAME

55 1296000058 Berlin 2012-01-03T00:00:00 16:01 5 TUESDAY MD 00610 WHALEYVILLE RD

INTERSECT\_ROAD DIST\_FROM\_INTERSECT DIST\_DIRECTION CITY\_NAME COUNTY\_CODE COUNTY\_NAME

1 IS 00270 EISENHOWER MEMORIAL 0 U Not Applicable 15 Montgomery

2 CO 00220 ST MARTINS NECK RD 0.25 W Not Applicable 23 Worcester

3 CO 00208 DUKE ST 100 S Not Applicable 4 Calvert

4 MD 00235 THREE NOTCH RD 10 E Not Applicable 18 St. Marys

5 IS 00083 HARRISBURG EXPWY 100 S Not Applicable 3 Baltimore

6 IS 00695 BALTO BELTWAY 1.5 S Not Applicable 3 Baltimore

7 CO 00014 CHERRY HILL RD 0.25 S Not Applicable 16 Prince Georges

8 MD 00410 VETERANS PKWY 0.25 E Not Applicable 16 Prince Georges

9 MD 00201 KENILWORTH AVE 0.25 N Not Applicable 16 Prince Georges

10 MD 00176 DORSEY RD 100 W Not Applicable 2 Anne Arundel

11 IS 00695 BALTO BELTWAY 500 N Not Applicable 2 Anne Arundel

12 MD 00010 ARUNDEL EXPWY 0 U Not Applicable 2 Anne Arundel

13 UU 00000 STRUC OVER MD 295 0.3 N Not Applicable 2 Anne Arundel

14 CO 07073 SEMINARY RD 0.3 W Not Applicable 15 Montgomery

15 UU 00000 MILE MARKER 92.0 0.6 S Not Applicable 7 Cecil

16 MD 00414 ST BARNABAS RD 200 N Not Applicable 16 Prince Georges

17 MD 00227 MARSHALL CORNER RD 0 U Not Applicable 8 Charles

18 MD 00229 BENSVILLE RD 10 W Not Applicable 8 Charles

19 CO 00075 Pleasant Valley Road 5 N Not Applicable 6 Carroll

20 CO 00295 GLEBE RD 500 S Not Applicable 7 Cecil

21 CO 00028 PIERCE RD 0.25 E Not Applicable 7 Cecil

22 CO 00064 ENGLAND CREAMERY RD 0 U Not Applicable 7 Cecil

23 MD 00152 MOUNTAIN RD 0.2 W Not Applicable 12 Harford

24 RP 01015 RAMP US 15 TO MD 180 0 U Not Applicable 10 Frederick

25 UU 00000 STR#10025 MON RIVER 0 U Not Applicable 10 Frederick

26 RP 00095 RAMP FR IS95 TO MD32 0 U Not Applicable 13 Howard

27 CO 00136 Montgomery Road 0 N Not Applicable 13 Howard

28 CO 00070 MARRIOTTSVILLE RD 2 E Not Applicable 13 Howard

29 UU 00000 INTERSTATE MM 99.0 0 U Not Applicable 7 Cecil

30 UU 00000 EXIT #42 0.5 W Not Applicable 1 Allegany

31 RP 00070 RAMP US 15 TO IS 70 0 U Not Applicable 10 Frederick

32 CO 00094 MONTE VISTA RD 0.5 S Not Applicable 11 Garrett

33 MD 00002 PARRAN RD 75 S Not Applicable 4 Calvert

34 MD 00244 MEDLEYS NECK RD 500 N Not Applicable 18 St. Marys

35 RP 01301 RAMP MD213 TO US301 15 N Not Applicable 17 Queen Annes

36 IS 00695 BALTO BELTWAY 1.5 E Not Applicable 3 Baltimore

37 MD 00372 WILKENS AVE 0.5 W Not Applicable 3 Baltimore

38 MD 00193 ENTERPRISE RD 0.3 W Not Applicable 16 Prince Georges

39 MD 00450 WEST ST 5 W Not Applicable 2 Anne Arundel

40 SR 00031 FARM RD 0.5 N Not Applicable 2 Anne Arundel

41 MD 00144 WESTERN PIKE 0.5 W Not Applicable 21 Washington

42 UU 00000 EXIT #11 1 N Not Applicable 15 Montgomery

43 CO 00079 RED TOAD RD 1.5 S Not Applicable 7 Cecil

44 CO 00974 RITCHIE MARLBORO RD 1000 S Not Applicable 16 Prince Georges

45 CO 00599 BRANDYWINE RD 15 S Not Applicable 16 Prince Georges

46 CO 00260 VFW RD 0.25 S Not Applicable 8 Charles

47 US 00301 CRAIN HWY 25 S Not Applicable 8 Charles

48 CO 00137 MARSHALLS CORNER RD 0 U Not Applicable 8 Charles

49 CO 00129 NAZARENE CAMP RD 0 N Not Applicable 7 Cecil

50 MD 00024 VIET VETS MEM HWY 0 U Not Applicable 12 Harford

51 CO 00269 LONE OAK LN 0 U Not Applicable 1 Allegany

52 CO 00094 MIDLOTHIAN RD 0 U Not Applicable 1 Allegany

53 MD 00355 WORMANS MILL RD 0.1 E Not Applicable 10 Frederick

54 US 00001 WASHINGTON BLVD 0.1 E Not Applicable 13 Howard

55 CO 00244 PEERLESS RD 0.3 E Not Applicable 23 Worcester

VEHICLE\_COUNT PROP\_DEST INJURY COLLISION\_WITH\_1 COLLISION\_WITH\_2

1 2 YES NO VEH OTHER-COLLISION

2 1 YES NO FIXED OBJ OTHER-COLLISION

3 1 YES NO FIXED OBJ FIXED OBJ

4 1 YES NO FIXED OBJ OTHER-COLLISION

5 2 YES NO VEH OTHER-COLLISION

6 1 YES NO FIXED OBJ OTHER-COLLISION

7 2 YES NO VEH OTHER-COLLISION

8 1 YES YES FIXED OBJ OTHER-COLLISION

9 2 NO NO VEH OTHER-COLLISION

10 1 YES NO FIXED OBJ OTHER-COLLISION

11 2 YES NO VEH OTHER-COLLISION

12 1 YES NO FIXED OBJ OTHER-COLLISION

13 2 YES NO VEH OTHER-COLLISION

14 1 YES NO FIXED OBJ OTHER-COLLISION

15 2 YES NO VEH OTHER-COLLISION

16 2 NO NO VEH OTHER-COLLISION

17 1 YES NO OTHER-COLLISION FIXED OBJ

18 2 NO NO VEH OTHER-COLLISION

19 1 YES NO ANIMAL OTHER-COLLISION

20 1 YES NO OTHER-COLLISION OTHER-COLLISION

21 1 YES NO OTHER-COLLISION FIXED OBJ

22 1 NO NO OTHER-COLLISION OTHER-COLLISION

23 1 YES NO FIXED OBJ OTHER-COLLISION

24 2 YES NO VEH OTHER-COLLISION

25 1 NO YES FIXED OBJ FIXED OBJ

26 1 YES NO FIXED OBJ OTHER-COLLISION

27 4 YES NO VEH OTHER-COLLISION

28 2 YES NO VEH OTHER-COLLISION

29 1 YES NO OTHER-COLLISION OTHER-COLLISION

30 1 YES NO FIXED OBJ NON-COLLISION

31 1 NO YES FIXED OBJ OTHER-COLLISION

32 2 YES NO VEH OTHER-COLLISION

33 1 YES NO FIXED OBJ FIXED OBJ

34 2 YES NO VEH OTHER-COLLISION

35 1 YES NO OTHER-COLLISION FIXED OBJ

36 1 YES NO FIXED OBJ OTHER-COLLISION

37 1 YES NO VEH OTHER-COLLISION

38 1 YES NO FIXED OBJ OTHER-COLLISION

39 4 YES NO VEH VEH

40 1 YES NO FIXED OBJ OTHER-COLLISION

41 1 YES NO ANIMAL OTHER-COLLISION

42 1 YES NO FIXED OBJ OTHER-COLLISION

43 2 YES NO VEH OTHER-COLLISION

44 1 YES NO FIXED OBJ OTHER-COLLISION

45 3 NO YES VEH FIXED OBJ

46 3 NO YES VEH OTHER-COLLISION

47 2 YES NO VEH OTHER-COLLISION

48 2 YES NO VEH OTHER-COLLISION

49 2 YES NO VEH OTHER-COLLISION

50 2 NO YES VEH OTHER-COLLISION

51 2 NO YES VEH OTHER-COLLISION

52 1 YES NO FIXED OBJ OTHER-COLLISION

53 3 YES NO VEH VEH

54 1 NO YES FIXED OBJ OTHER-COLLISION

55 2 NO YES VEH FIXED OBJ

[ reached getOption("max.print") -- omitted 16208 rows ]

> str(dfaccidents) #STR of DF

'data.frame': 16263 obs. of 18 variables:

$ CASE\_NUMBER : chr "1363000002" "1296000023" "1283000016" "1282000006" ...

$ BARRACK : chr "Rockville" "Berlin" "Prince Frederick" "Leonardtown" ...

$ ACC\_DATE : chr "2012-01-01T00:00:00" "2012-01-01T00:00:00" "2012-01-01T00:00:00" "2012-01-01T00:00:00" ...

$ ACC\_TIME : chr "2:01" "18:01" "7:01" "0:01" ...

$ ACC\_TIME\_CODE : chr "1" "5" "2" "1" ...

$ DAY\_OF\_WEEK : chr "SUNDAY " "SUNDAY " "SUNDAY " "SUNDAY " ...

$ ROAD : chr "IS 00495 CAPITAL BELTWAY" "MD 00090 OCEAN CITY EXPWY" "MD 00765 MAIN ST" "MD 00944 MERVELL DEAN RD" ...

$ INTERSECT\_ROAD : chr "IS 00270 EISENHOWER MEMORIAL" "CO 00220 ST MARTINS NECK RD" "CO 00208 DUKE ST" "MD 00235 THREE NOTCH RD" ...

$ DIST\_FROM\_INTERSECT: chr "0" "0.25" "100" "10" ...

$ DIST\_DIRECTION : chr "U" "W" "S" "E" ...

$ CITY\_NAME : chr "Not Applicable" "Not Applicable" "Not Applicable" "Not Applicable" ...

$ COUNTY\_CODE : chr "15" "23" "4" "18" ...

$ COUNTY\_NAME : chr "Montgomery" "Worcester" "Calvert" "St. Marys" ...

$ VEHICLE\_COUNT : chr "2" "1" "1" "1" ...

$ PROP\_DEST : chr "YES" "YES" "YES" "YES" ...

$ INJURY : chr "NO" "NO" "NO" "NO" ...

$ COLLISION\_WITH\_1 : chr "VEH" "FIXED OBJ" "FIXED OBJ" "FIXED OBJ" ...

$ COLLISION\_WITH\_2 : chr "OTHER-COLLISION" "OTHER-COLLISION" "FIXED OBJ" "OTHER-COLLISION" ...

> summary(dfaccidents)

CASE\_NUMBER BARRACK ACC\_DATE ACC\_TIME ACC\_TIME\_CODE DAY\_OF\_WEEK

Length:16263 Length:16263 Length:16263 Length:16263 Length:16263 Length:16263

Class :character Class :character Class :character Class :character Class :character Class :character

Mode :character Mode :character Mode :character Mode :character Mode :character Mode :character

ROAD INTERSECT\_ROAD DIST\_FROM\_INTERSECT DIST\_DIRECTION CITY\_NAME COUNTY\_CODE

Length:16263 Length:16263 Length:16263 Length:16263 Length:16263 Length:16263

Class :character Class :character Class :character Class :character Class :character Class :character

Mode :character Mode :character Mode :character Mode :character Mode :character Mode :character

COUNTY\_NAME VEHICLE\_COUNT PROP\_DEST INJURY COLLISION\_WITH\_1 COLLISION\_WITH\_2

Length:16263 Length:16263 Length:16263 Length:16263 Length:16263 Length:16263

Class :character Class :character Class :character Class :character Class :character Class :character

Mode :character Mode :character Mode :character Mode :character Mode :character Mode :character

>

>

> #TRIM DATA

> install.packages("stringr")

Installing package into ‘C:/Users/jdine/Documents/R/win-library/3.3’

(as ‘lib’ is unspecified)

Warning in install.packages :

package ‘stringr’ is in use and will not be installed

> library("stringr")

>

> str(dfaccidents) #STR of DF. Day of Week has prevalent blank spaces.

'data.frame': 16263 obs. of 18 variables:

$ CASE\_NUMBER : chr "1363000002" "1296000023" "1283000016" "1282000006" ...

$ BARRACK : chr "Rockville" "Berlin" "Prince Frederick" "Leonardtown" ...

$ ACC\_DATE : chr "2012-01-01T00:00:00" "2012-01-01T00:00:00" "2012-01-01T00:00:00" "2012-01-01T00:00:00" ...

$ ACC\_TIME : chr "2:01" "18:01" "7:01" "0:01" ...

$ ACC\_TIME\_CODE : chr "1" "5" "2" "1" ...

$ DAY\_OF\_WEEK : chr "SUNDAY " "SUNDAY " "SUNDAY " "SUNDAY " ...

$ ROAD : chr "IS 00495 CAPITAL BELTWAY" "MD 00090 OCEAN CITY EXPWY" "MD 00765 MAIN ST" "MD 00944 MERVELL DEAN RD" ...

$ INTERSECT\_ROAD : chr "IS 00270 EISENHOWER MEMORIAL" "CO 00220 ST MARTINS NECK RD" "CO 00208 DUKE ST" "MD 00235 THREE NOTCH RD" ...

$ DIST\_FROM\_INTERSECT: chr "0" "0.25" "100" "10" ...

$ DIST\_DIRECTION : chr "U" "W" "S" "E" ...

$ CITY\_NAME : chr "Not Applicable" "Not Applicable" "Not Applicable" "Not Applicable" ...

$ COUNTY\_CODE : chr "15" "23" "4" "18" ...

$ COUNTY\_NAME : chr "Montgomery" "Worcester" "Calvert" "St. Marys" ...

$ VEHICLE\_COUNT : chr "2" "1" "1" "1" ...

$ PROP\_DEST : chr "YES" "YES" "YES" "YES" ...

$ INJURY : chr "NO" "NO" "NO" "NO" ...

$ COLLISION\_WITH\_1 : chr "VEH" "FIXED OBJ" "FIXED OBJ" "FIXED OBJ" ...

$ COLLISION\_WITH\_2 : chr "OTHER-COLLISION" "OTHER-COLLISION" "FIXED OBJ" "OTHER-COLLISION" ...

> dfaccidents

CASE\_NUMBER BARRACK ACC\_DATE ACC\_TIME ACC\_TIME\_CODE DAY\_OF\_WEEK ROAD

1 1363000002 Rockville 2012-01-01T00:00:00 2:01 1 SUNDAY IS 00495 CAPITAL BELTWAY

2 1296000023 Berlin 2012-01-01T00:00:00 18:01 5 SUNDAY MD 00090 OCEAN CITY EXPWY

3 1283000016 Prince Frederick 2012-01-01T00:00:00 7:01 2 SUNDAY MD 00765 MAIN ST

4 1282000006 Leonardtown 2012-01-01T00:00:00 0:01 1 SUNDAY MD 00944 MERVELL DEAN RD

5 1267000007 Essex 2012-01-01T00:00:00 1:01 1 SUNDAY IS 00695 BALTO BELTWAY

6 1267000005 Essex 2012-01-01T00:00:00 1:01 1 SUNDAY IS 00070 NO NAME

7 1266000090 College Park 2012-01-01T00:00:00 6:01 2 SUNDAY IS 00095 NO NAME

8 1266000025 College Park 2012-01-01T00:00:00 14:01 4 SUNDAY US 00050 JOHN HANSON HWY

9 1266000008 College Park 2012-01-01T00:00:00 5:01 2 SUNDAY IS 00095 CAPITAL BELTWAY

10 1265000019 Glen Burnie 2012-01-01T00:00:00 17:01 5 SUNDAY RP 00097 RAMP IS 97 TO MD 176

11 1265000016 Glen Burnie 2012-01-01T00:00:00 15:01 4 SUNDAY MD 00295 BALT WASH PKWY

12 1265000009 Glen Burnie 2012-01-01T00:00:00 4:01 2 SUNDAY MD 00695 BALTO BELTWAY

13 1265000003 Glen Burnie 2012-01-01T00:00:00 1:01 1 SUNDAY MD 00295 BALT0 WASH PKWY

14 1263000017 Rockville 2012-01-01T00:00:00 18:01 5 SUNDAY IS 00495 CAPITAL BELTWAY

15 1262000031 JFK 2012-01-01T00:00:00 17:01 5 SUNDAY IS 00095 J F K MEMORIAL HWY

16 1261000009 Forestville 2012-01-01T00:00:00 4:01 2 SUNDAY IS 00095 CAPITAL BELTWAY

17 1257000017 Waldorf 2012-01-01T00:00:00 21:01 6 SUNDAY MD 00229 BENSVILLE RD

18 1257000016 Waldorf 2012-01-01T00:00:00 20:01 6 SUNDAY MD 00228 BERRY RD

19 1256000030 Westminster 2012-01-01T00:00:00 20:01 6 SUNDAY MD 00097 Littlestown Pike

20 1255000035 North East 2012-01-01T00:00:00 17:01 5 SUNDAY MD 00213 AUGUSTINE HERMAN HWY

21 1255000021 North East 2012-01-01T00:00:00 9:01 3 SUNDAY MD 00274 JOSEPH BIGGS HWY

22 1255000014 North East 2012-01-01T00:00:00 4:01 2 SUNDAY MD 00272 NORTH EAST RD

23 1253000018 Bel Air 2012-01-01T00:00:00 2:01 1 SUNDAY CO 00290 FRANKLINVILLE RD

24 1251000052 Frederick 2012-01-01T00:00:00 9:01 3 SUNDAY MD 00180 JEFFERSON PIKE

25 1251000025 Frederick 2012-01-01T00:00:00 3:01 1 SUNDAY MD 00026 LIBERTY RD

26 1250000026 Jessup 2012-01-01T00:00:00 15:01 4 SUNDAY IS 00095 NO NAME

27 1250000025 Jessup 2012-01-01T00:00:00 15:01 4 SUNDAY IS 00095 No Name

28 1250000020 Jessup 2012-01-01T00:00:00 14:01 4 SUNDAY IS 00070 NO NAME

29 1362000042 JFK 2012-01-02T00:00:00 8:01 3 MONDAY IS 00095 J F K MEMORIAL HWY

30 1352000046 Cumberland 2012-01-02T00:00:00 22:01 6 MONDAY IS 00068 NATIONAL FREEWAY

31 1351000186 Frederick 2012-01-02T00:00:00 17:01 5 MONDAY IS 00070 EISENHOWER MEM HWY

32 1294000039 McHenry 2012-01-02T00:00:00 22:01 6 MONDAY CO 00091 UNDERWOOD RD

33 1283000047 Prince Frederick 2012-01-02T00:00:00 5:01 2 MONDAY MD 00002 SOLOMONS ISLAND RD

34 1282000049 Leonardtown 2012-01-02T00:00:00 7:01 2 MONDAY MD 00005 POINT LOOKOUT RD

35 1280000050 Centreville 2012-01-02T00:00:00 17:01 5 MONDAY MD 00213 CENTREVILLE RD

36 1267000044 Essex 2012-01-02T00:00:00 13:01 4 MONDAY IS 00070 NO NAME

37 1267000039 Essex 2012-01-02T00:00:00 9:01 3 MONDAY IS 00695 BALTO BELTWAY

38 1266000054 College Park 2012-01-02T00:00:00 3:01 1 MONDAY IS 00595 JOHN HANSON HWY

39 1265000046 Glen Burnie 2012-01-02T00:00:00 15:01 4 MONDAY IS 00595 JOHN HANSON HWY

40 1265000032 Glen Burnie 2012-01-02T00:00:00 6:01 2 MONDAY IS 00097 NO NAME

41 1264000084 Hagerstown 2012-01-02T00:00:00 17:01 5 MONDAY IS 00068 NATIONAL FREEWAY

42 1263000025 Rockville 2012-01-02T00:00:00 11:01 3 MONDAY IS 00270 EISENHOWER MEM HGY

43 1262000072 JFK 2012-01-02T00:00:00 17:01 5 MONDAY IS 00095 J F K MEMORIAL HWY

44 1261000035 Forestville 2012-01-02T00:00:00 20:01 6 MONDAY IS 00095 CAPITAL BELTWAY

45 1261000028 Forestville 2012-01-02T00:00:00 13:01 4 MONDAY MD 00005 BRANCH AVE

46 1257000025 Waldorf 2012-01-02T00:00:00 17:01 5 MONDAY US 00301 CRAIN HWY

47 1257000021 Waldorf 2012-01-02T00:00:00 14:01 4 MONDAY MD 00005 LEONARDTOWN RD

48 1257000020 Waldorf 2012-01-02T00:00:00 12:01 4 MONDAY MD 00225 HAWTHORNE RD

49 1255000068 North East 2012-01-02T00:00:00 14:01 4 MONDAY MD 00272 NORTH EAST RD

50 1253000038 Bel Air 2012-01-02T00:00:00 17:01 5 MONDAY MD 00924 EMMORTON RD

51 1252000055 Cumberland 2012-01-02T00:00:00 15:01 4 MONDAY US 00220 MCMULLEN HWY

52 1252000027 Cumberland 2012-01-02T00:00:00 12:01 4 MONDAY IS 00068 NATIONAL FREEWAY

53 1251000203 Frederick 2012-01-02T00:00:00 16:01 5 MONDAY MD 00026 LIBERTY RD

54 1250000047 Jessup 2012-01-02T00:00:00 15:01 4 MONDAY MD 00100 NO NAME

55 1296000058 Berlin 2012-01-03T00:00:00 16:01 5 TUESDAY MD 00610 WHALEYVILLE RD

INTERSECT\_ROAD DIST\_FROM\_INTERSECT DIST\_DIRECTION CITY\_NAME COUNTY\_CODE COUNTY\_NAME

1 IS 00270 EISENHOWER MEMORIAL 0 U Not Applicable 15 Montgomery

2 CO 00220 ST MARTINS NECK RD 0.25 W Not Applicable 23 Worcester

3 CO 00208 DUKE ST 100 S Not Applicable 4 Calvert

4 MD 00235 THREE NOTCH RD 10 E Not Applicable 18 St. Marys

5 IS 00083 HARRISBURG EXPWY 100 S Not Applicable 3 Baltimore

6 IS 00695 BALTO BELTWAY 1.5 S Not Applicable 3 Baltimore

7 CO 00014 CHERRY HILL RD 0.25 S Not Applicable 16 Prince Georges

8 MD 00410 VETERANS PKWY 0.25 E Not Applicable 16 Prince Georges

9 MD 00201 KENILWORTH AVE 0.25 N Not Applicable 16 Prince Georges

10 MD 00176 DORSEY RD 100 W Not Applicable 2 Anne Arundel

11 IS 00695 BALTO BELTWAY 500 N Not Applicable 2 Anne Arundel

12 MD 00010 ARUNDEL EXPWY 0 U Not Applicable 2 Anne Arundel

13 UU 00000 STRUC OVER MD 295 0.3 N Not Applicable 2 Anne Arundel

14 CO 07073 SEMINARY RD 0.3 W Not Applicable 15 Montgomery

15 UU 00000 MILE MARKER 92.0 0.6 S Not Applicable 7 Cecil

16 MD 00414 ST BARNABAS RD 200 N Not Applicable 16 Prince Georges

17 MD 00227 MARSHALL CORNER RD 0 U Not Applicable 8 Charles

18 MD 00229 BENSVILLE RD 10 W Not Applicable 8 Charles

19 CO 00075 Pleasant Valley Road 5 N Not Applicable 6 Carroll

20 CO 00295 GLEBE RD 500 S Not Applicable 7 Cecil

21 CO 00028 PIERCE RD 0.25 E Not Applicable 7 Cecil

22 CO 00064 ENGLAND CREAMERY RD 0 U Not Applicable 7 Cecil

23 MD 00152 MOUNTAIN RD 0.2 W Not Applicable 12 Harford

24 RP 01015 RAMP US 15 TO MD 180 0 U Not Applicable 10 Frederick

25 UU 00000 STR#10025 MON RIVER 0 U Not Applicable 10 Frederick

26 RP 00095 RAMP FR IS95 TO MD32 0 U Not Applicable 13 Howard

27 CO 00136 Montgomery Road 0 N Not Applicable 13 Howard

28 CO 00070 MARRIOTTSVILLE RD 2 E Not Applicable 13 Howard

29 UU 00000 INTERSTATE MM 99.0 0 U Not Applicable 7 Cecil

30 UU 00000 EXIT #42 0.5 W Not Applicable 1 Allegany

31 RP 00070 RAMP US 15 TO IS 70 0 U Not Applicable 10 Frederick

32 CO 00094 MONTE VISTA RD 0.5 S Not Applicable 11 Garrett

33 MD 00002 PARRAN RD 75 S Not Applicable 4 Calvert

34 MD 00244 MEDLEYS NECK RD 500 N Not Applicable 18 St. Marys

35 RP 01301 RAMP MD213 TO US301 15 N Not Applicable 17 Queen Annes

36 IS 00695 BALTO BELTWAY 1.5 E Not Applicable 3 Baltimore

37 MD 00372 WILKENS AVE 0.5 W Not Applicable 3 Baltimore

38 MD 00193 ENTERPRISE RD 0.3 W Not Applicable 16 Prince Georges

39 MD 00450 WEST ST 5 W Not Applicable 2 Anne Arundel

40 SR 00031 FARM RD 0.5 N Not Applicable 2 Anne Arundel

41 MD 00144 WESTERN PIKE 0.5 W Not Applicable 21 Washington

42 UU 00000 EXIT #11 1 N Not Applicable 15 Montgomery

43 CO 00079 RED TOAD RD 1.5 S Not Applicable 7 Cecil

44 CO 00974 RITCHIE MARLBORO RD 1000 S Not Applicable 16 Prince Georges

45 CO 00599 BRANDYWINE RD 15 S Not Applicable 16 Prince Georges

46 CO 00260 VFW RD 0.25 S Not Applicable 8 Charles

47 US 00301 CRAIN HWY 25 S Not Applicable 8 Charles

48 CO 00137 MARSHALLS CORNER RD 0 U Not Applicable 8 Charles

49 CO 00129 NAZARENE CAMP RD 0 N Not Applicable 7 Cecil

50 MD 00024 VIET VETS MEM HWY 0 U Not Applicable 12 Harford

51 CO 00269 LONE OAK LN 0 U Not Applicable 1 Allegany

52 CO 00094 MIDLOTHIAN RD 0 U Not Applicable 1 Allegany

53 MD 00355 WORMANS MILL RD 0.1 E Not Applicable 10 Frederick

54 US 00001 WASHINGTON BLVD 0.1 E Not Applicable 13 Howard

55 CO 00244 PEERLESS RD 0.3 E Not Applicable 23 Worcester

VEHICLE\_COUNT PROP\_DEST INJURY COLLISION\_WITH\_1 COLLISION\_WITH\_2

1 2 YES NO VEH OTHER-COLLISION

2 1 YES NO FIXED OBJ OTHER-COLLISION

3 1 YES NO FIXED OBJ FIXED OBJ

4 1 YES NO FIXED OBJ OTHER-COLLISION

5 2 YES NO VEH OTHER-COLLISION

6 1 YES NO FIXED OBJ OTHER-COLLISION

7 2 YES NO VEH OTHER-COLLISION

8 1 YES YES FIXED OBJ OTHER-COLLISION

9 2 NO NO VEH OTHER-COLLISION

10 1 YES NO FIXED OBJ OTHER-COLLISION

11 2 YES NO VEH OTHER-COLLISION

12 1 YES NO FIXED OBJ OTHER-COLLISION

13 2 YES NO VEH OTHER-COLLISION

14 1 YES NO FIXED OBJ OTHER-COLLISION

15 2 YES NO VEH OTHER-COLLISION

16 2 NO NO VEH OTHER-COLLISION

17 1 YES NO OTHER-COLLISION FIXED OBJ

18 2 NO NO VEH OTHER-COLLISION

19 1 YES NO ANIMAL OTHER-COLLISION

20 1 YES NO OTHER-COLLISION OTHER-COLLISION

21 1 YES NO OTHER-COLLISION FIXED OBJ

22 1 NO NO OTHER-COLLISION OTHER-COLLISION

23 1 YES NO FIXED OBJ OTHER-COLLISION

24 2 YES NO VEH OTHER-COLLISION

25 1 NO YES FIXED OBJ FIXED OBJ

26 1 YES NO FIXED OBJ OTHER-COLLISION

27 4 YES NO VEH OTHER-COLLISION

28 2 YES NO VEH OTHER-COLLISION

29 1 YES NO OTHER-COLLISION OTHER-COLLISION

30 1 YES NO FIXED OBJ NON-COLLISION

31 1 NO YES FIXED OBJ OTHER-COLLISION

32 2 YES NO VEH OTHER-COLLISION

33 1 YES NO FIXED OBJ FIXED OBJ

34 2 YES NO VEH OTHER-COLLISION

35 1 YES NO OTHER-COLLISION FIXED OBJ

36 1 YES NO FIXED OBJ OTHER-COLLISION

37 1 YES NO VEH OTHER-COLLISION

38 1 YES NO FIXED OBJ OTHER-COLLISION

39 4 YES NO VEH VEH

40 1 YES NO FIXED OBJ OTHER-COLLISION

41 1 YES NO ANIMAL OTHER-COLLISION

42 1 YES NO FIXED OBJ OTHER-COLLISION

43 2 YES NO VEH OTHER-COLLISION

44 1 YES NO FIXED OBJ OTHER-COLLISION

45 3 NO YES VEH FIXED OBJ

46 3 NO YES VEH OTHER-COLLISION

47 2 YES NO VEH OTHER-COLLISION

48 2 YES NO VEH OTHER-COLLISION

49 2 YES NO VEH OTHER-COLLISION

50 2 NO YES VEH OTHER-COLLISION

51 2 NO YES VEH OTHER-COLLISION

52 1 YES NO FIXED OBJ OTHER-COLLISION

53 3 YES NO VEH VEH

54 1 NO YES FIXED OBJ OTHER-COLLISION

55 2 NO YES VEH FIXED OBJ

[ reached getOption("max.print") -- omitted 16208 rows ]

>

> data.frame(lapply(dfaccidents, trimws), stringsAsFactors = FALSE) #Function to remove white space from entire data frame. Researched on Stackoverflow.

CASE\_NUMBER BARRACK ACC\_DATE ACC\_TIME ACC\_TIME\_CODE DAY\_OF\_WEEK ROAD

1 1363000002 Rockville 2012-01-01T00:00:00 2:01 1 SUNDAY IS 00495 CAPITAL BELTWAY

2 1296000023 Berlin 2012-01-01T00:00:00 18:01 5 SUNDAY MD 00090 OCEAN CITY EXPWY

3 1283000016 Prince Frederick 2012-01-01T00:00:00 7:01 2 SUNDAY MD 00765 MAIN ST

4 1282000006 Leonardtown 2012-01-01T00:00:00 0:01 1 SUNDAY MD 00944 MERVELL DEAN RD

5 1267000007 Essex 2012-01-01T00:00:00 1:01 1 SUNDAY IS 00695 BALTO BELTWAY

6 1267000005 Essex 2012-01-01T00:00:00 1:01 1 SUNDAY IS 00070 NO NAME

7 1266000090 College Park 2012-01-01T00:00:00 6:01 2 SUNDAY IS 00095 NO NAME

8 1266000025 College Park 2012-01-01T00:00:00 14:01 4 SUNDAY US 00050 JOHN HANSON HWY

9 1266000008 College Park 2012-01-01T00:00:00 5:01 2 SUNDAY IS 00095 CAPITAL BELTWAY

10 1265000019 Glen Burnie 2012-01-01T00:00:00 17:01 5 SUNDAY RP 00097 RAMP IS 97 TO MD 176

11 1265000016 Glen Burnie 2012-01-01T00:00:00 15:01 4 SUNDAY MD 00295 BALT WASH PKWY

12 1265000009 Glen Burnie 2012-01-01T00:00:00 4:01 2 SUNDAY MD 00695 BALTO BELTWAY

13 1265000003 Glen Burnie 2012-01-01T00:00:00 1:01 1 SUNDAY MD 00295 BALT0 WASH PKWY

14 1263000017 Rockville 2012-01-01T00:00:00 18:01 5 SUNDAY IS 00495 CAPITAL BELTWAY

15 1262000031 JFK 2012-01-01T00:00:00 17:01 5 SUNDAY IS 00095 J F K MEMORIAL HWY

16 1261000009 Forestville 2012-01-01T00:00:00 4:01 2 SUNDAY IS 00095 CAPITAL BELTWAY

17 1257000017 Waldorf 2012-01-01T00:00:00 21:01 6 SUNDAY MD 00229 BENSVILLE RD

18 1257000016 Waldorf 2012-01-01T00:00:00 20:01 6 SUNDAY MD 00228 BERRY RD

19 1256000030 Westminster 2012-01-01T00:00:00 20:01 6 SUNDAY MD 00097 Littlestown Pike

20 1255000035 North East 2012-01-01T00:00:00 17:01 5 SUNDAY MD 00213 AUGUSTINE HERMAN HWY

21 1255000021 North East 2012-01-01T00:00:00 9:01 3 SUNDAY MD 00274 JOSEPH BIGGS HWY

22 1255000014 North East 2012-01-01T00:00:00 4:01 2 SUNDAY MD 00272 NORTH EAST RD

23 1253000018 Bel Air 2012-01-01T00:00:00 2:01 1 SUNDAY CO 00290 FRANKLINVILLE RD

24 1251000052 Frederick 2012-01-01T00:00:00 9:01 3 SUNDAY MD 00180 JEFFERSON PIKE

25 1251000025 Frederick 2012-01-01T00:00:00 3:01 1 SUNDAY MD 00026 LIBERTY RD

26 1250000026 Jessup 2012-01-01T00:00:00 15:01 4 SUNDAY IS 00095 NO NAME

27 1250000025 Jessup 2012-01-01T00:00:00 15:01 4 SUNDAY IS 00095 No Name

28 1250000020 Jessup 2012-01-01T00:00:00 14:01 4 SUNDAY IS 00070 NO NAME

29 1362000042 JFK 2012-01-02T00:00:00 8:01 3 MONDAY IS 00095 J F K MEMORIAL HWY

30 1352000046 Cumberland 2012-01-02T00:00:00 22:01 6 MONDAY IS 00068 NATIONAL FREEWAY

31 1351000186 Frederick 2012-01-02T00:00:00 17:01 5 MONDAY IS 00070 EISENHOWER MEM HWY

32 1294000039 McHenry 2012-01-02T00:00:00 22:01 6 MONDAY CO 00091 UNDERWOOD RD

33 1283000047 Prince Frederick 2012-01-02T00:00:00 5:01 2 MONDAY MD 00002 SOLOMONS ISLAND RD

34 1282000049 Leonardtown 2012-01-02T00:00:00 7:01 2 MONDAY MD 00005 POINT LOOKOUT RD

35 1280000050 Centreville 2012-01-02T00:00:00 17:01 5 MONDAY MD 00213 CENTREVILLE RD

36 1267000044 Essex 2012-01-02T00:00:00 13:01 4 MONDAY IS 00070 NO NAME

37 1267000039 Essex 2012-01-02T00:00:00 9:01 3 MONDAY IS 00695 BALTO BELTWAY

38 1266000054 College Park 2012-01-02T00:00:00 3:01 1 MONDAY IS 00595 JOHN HANSON HWY

39 1265000046 Glen Burnie 2012-01-02T00:00:00 15:01 4 MONDAY IS 00595 JOHN HANSON HWY

40 1265000032 Glen Burnie 2012-01-02T00:00:00 6:01 2 MONDAY IS 00097 NO NAME

41 1264000084 Hagerstown 2012-01-02T00:00:00 17:01 5 MONDAY IS 00068 NATIONAL FREEWAY

42 1263000025 Rockville 2012-01-02T00:00:00 11:01 3 MONDAY IS 00270 EISENHOWER MEM HGY

43 1262000072 JFK 2012-01-02T00:00:00 17:01 5 MONDAY IS 00095 J F K MEMORIAL HWY

44 1261000035 Forestville 2012-01-02T00:00:00 20:01 6 MONDAY IS 00095 CAPITAL BELTWAY

45 1261000028 Forestville 2012-01-02T00:00:00 13:01 4 MONDAY MD 00005 BRANCH AVE

46 1257000025 Waldorf 2012-01-02T00:00:00 17:01 5 MONDAY US 00301 CRAIN HWY

47 1257000021 Waldorf 2012-01-02T00:00:00 14:01 4 MONDAY MD 00005 LEONARDTOWN RD

48 1257000020 Waldorf 2012-01-02T00:00:00 12:01 4 MONDAY MD 00225 HAWTHORNE RD

49 1255000068 North East 2012-01-02T00:00:00 14:01 4 MONDAY MD 00272 NORTH EAST RD

50 1253000038 Bel Air 2012-01-02T00:00:00 17:01 5 MONDAY MD 00924 EMMORTON RD

51 1252000055 Cumberland 2012-01-02T00:00:00 15:01 4 MONDAY US 00220 MCMULLEN HWY

52 1252000027 Cumberland 2012-01-02T00:00:00 12:01 4 MONDAY IS 00068 NATIONAL FREEWAY

53 1251000203 Frederick 2012-01-02T00:00:00 16:01 5 MONDAY MD 00026 LIBERTY RD

54 1250000047 Jessup 2012-01-02T00:00:00 15:01 4 MONDAY MD 00100 NO NAME

55 1296000058 Berlin 2012-01-03T00:00:00 16:01 5 TUESDAY MD 00610 WHALEYVILLE RD

INTERSECT\_ROAD DIST\_FROM\_INTERSECT DIST\_DIRECTION CITY\_NAME COUNTY\_CODE COUNTY\_NAME

1 IS 00270 EISENHOWER MEMORIAL 0 U Not Applicable 15 Montgomery

2 CO 00220 ST MARTINS NECK RD 0.25 W Not Applicable 23 Worcester

3 CO 00208 DUKE ST 100 S Not Applicable 4 Calvert

4 MD 00235 THREE NOTCH RD 10 E Not Applicable 18 St. Marys

5 IS 00083 HARRISBURG EXPWY 100 S Not Applicable 3 Baltimore

6 IS 00695 BALTO BELTWAY 1.5 S Not Applicable 3 Baltimore

7 CO 00014 CHERRY HILL RD 0.25 S Not Applicable 16 Prince Georges

8 MD 00410 VETERANS PKWY 0.25 E Not Applicable 16 Prince Georges

9 MD 00201 KENILWORTH AVE 0.25 N Not Applicable 16 Prince Georges

10 MD 00176 DORSEY RD 100 W Not Applicable 2 Anne Arundel

11 IS 00695 BALTO BELTWAY 500 N Not Applicable 2 Anne Arundel

12 MD 00010 ARUNDEL EXPWY 0 U Not Applicable 2 Anne Arundel

13 UU 00000 STRUC OVER MD 295 0.3 N Not Applicable 2 Anne Arundel

14 CO 07073 SEMINARY RD 0.3 W Not Applicable 15 Montgomery

15 UU 00000 MILE MARKER 92.0 0.6 S Not Applicable 7 Cecil

16 MD 00414 ST BARNABAS RD 200 N Not Applicable 16 Prince Georges

17 MD 00227 MARSHALL CORNER RD 0 U Not Applicable 8 Charles

18 MD 00229 BENSVILLE RD 10 W Not Applicable 8 Charles

19 CO 00075 Pleasant Valley Road 5 N Not Applicable 6 Carroll

20 CO 00295 GLEBE RD 500 S Not Applicable 7 Cecil

21 CO 00028 PIERCE RD 0.25 E Not Applicable 7 Cecil

22 CO 00064 ENGLAND CREAMERY RD 0 U Not Applicable 7 Cecil

23 MD 00152 MOUNTAIN RD 0.2 W Not Applicable 12 Harford

24 RP 01015 RAMP US 15 TO MD 180 0 U Not Applicable 10 Frederick

25 UU 00000 STR#10025 MON RIVER 0 U Not Applicable 10 Frederick

26 RP 00095 RAMP FR IS95 TO MD32 0 U Not Applicable 13 Howard

27 CO 00136 Montgomery Road 0 N Not Applicable 13 Howard

28 CO 00070 MARRIOTTSVILLE RD 2 E Not Applicable 13 Howard

29 UU 00000 INTERSTATE MM 99.0 0 U Not Applicable 7 Cecil

30 UU 00000 EXIT #42 0.5 W Not Applicable 1 Allegany

31 RP 00070 RAMP US 15 TO IS 70 0 U Not Applicable 10 Frederick

32 CO 00094 MONTE VISTA RD 0.5 S Not Applicable 11 Garrett

33 MD 00002 PARRAN RD 75 S Not Applicable 4 Calvert

34 MD 00244 MEDLEYS NECK RD 500 N Not Applicable 18 St. Marys

35 RP 01301 RAMP MD213 TO US301 15 N Not Applicable 17 Queen Annes

36 IS 00695 BALTO BELTWAY 1.5 E Not Applicable 3 Baltimore

37 MD 00372 WILKENS AVE 0.5 W Not Applicable 3 Baltimore

38 MD 00193 ENTERPRISE RD 0.3 W Not Applicable 16 Prince Georges

39 MD 00450 WEST ST 5 W Not Applicable 2 Anne Arundel

40 SR 00031 FARM RD 0.5 N Not Applicable 2 Anne Arundel

41 MD 00144 WESTERN PIKE 0.5 W Not Applicable 21 Washington

42 UU 00000 EXIT #11 1 N Not Applicable 15 Montgomery

43 CO 00079 RED TOAD RD 1.5 S Not Applicable 7 Cecil

44 CO 00974 RITCHIE MARLBORO RD 1000 S Not Applicable 16 Prince Georges

45 CO 00599 BRANDYWINE RD 15 S Not Applicable 16 Prince Georges

46 CO 00260 VFW RD 0.25 S Not Applicable 8 Charles

47 US 00301 CRAIN HWY 25 S Not Applicable 8 Charles

48 CO 00137 MARSHALLS CORNER RD 0 U Not Applicable 8 Charles

49 CO 00129 NAZARENE CAMP RD 0 N Not Applicable 7 Cecil

50 MD 00024 VIET VETS MEM HWY 0 U Not Applicable 12 Harford

51 CO 00269 LONE OAK LN 0 U Not Applicable 1 Allegany

52 CO 00094 MIDLOTHIAN RD 0 U Not Applicable 1 Allegany

53 MD 00355 WORMANS MILL RD 0.1 E Not Applicable 10 Frederick

54 US 00001 WASHINGTON BLVD 0.1 E Not Applicable 13 Howard

55 CO 00244 PEERLESS RD 0.3 E Not Applicable 23 Worcester

VEHICLE\_COUNT PROP\_DEST INJURY COLLISION\_WITH\_1 COLLISION\_WITH\_2

1 2 YES NO VEH OTHER-COLLISION

2 1 YES NO FIXED OBJ OTHER-COLLISION

3 1 YES NO FIXED OBJ FIXED OBJ

4 1 YES NO FIXED OBJ OTHER-COLLISION

5 2 YES NO VEH OTHER-COLLISION

6 1 YES NO FIXED OBJ OTHER-COLLISION

7 2 YES NO VEH OTHER-COLLISION

8 1 YES YES FIXED OBJ OTHER-COLLISION

9 2 NO NO VEH OTHER-COLLISION

10 1 YES NO FIXED OBJ OTHER-COLLISION

11 2 YES NO VEH OTHER-COLLISION

12 1 YES NO FIXED OBJ OTHER-COLLISION

13 2 YES NO VEH OTHER-COLLISION

14 1 YES NO FIXED OBJ OTHER-COLLISION

15 2 YES NO VEH OTHER-COLLISION

16 2 NO NO VEH OTHER-COLLISION

17 1 YES NO OTHER-COLLISION FIXED OBJ

18 2 NO NO VEH OTHER-COLLISION

19 1 YES NO ANIMAL OTHER-COLLISION

20 1 YES NO OTHER-COLLISION OTHER-COLLISION

21 1 YES NO OTHER-COLLISION FIXED OBJ

22 1 NO NO OTHER-COLLISION OTHER-COLLISION

23 1 YES NO FIXED OBJ OTHER-COLLISION

24 2 YES NO VEH OTHER-COLLISION

25 1 NO YES FIXED OBJ FIXED OBJ

26 1 YES NO FIXED OBJ OTHER-COLLISION

27 4 YES NO VEH OTHER-COLLISION

28 2 YES NO VEH OTHER-COLLISION

29 1 YES NO OTHER-COLLISION OTHER-COLLISION

30 1 YES NO FIXED OBJ NON-COLLISION

31 1 NO YES FIXED OBJ OTHER-COLLISION

32 2 YES NO VEH OTHER-COLLISION

33 1 YES NO FIXED OBJ FIXED OBJ

34 2 YES NO VEH OTHER-COLLISION

35 1 YES NO OTHER-COLLISION FIXED OBJ

36 1 YES NO FIXED OBJ OTHER-COLLISION

37 1 YES NO VEH OTHER-COLLISION

38 1 YES NO FIXED OBJ OTHER-COLLISION

39 4 YES NO VEH VEH

40 1 YES NO FIXED OBJ OTHER-COLLISION

41 1 YES NO ANIMAL OTHER-COLLISION

42 1 YES NO FIXED OBJ OTHER-COLLISION

43 2 YES NO VEH OTHER-COLLISION

44 1 YES NO FIXED OBJ OTHER-COLLISION

45 3 NO YES VEH FIXED OBJ

46 3 NO YES VEH OTHER-COLLISION

47 2 YES NO VEH OTHER-COLLISION

48 2 YES NO VEH OTHER-COLLISION

49 2 YES NO VEH OTHER-COLLISION

50 2 NO YES VEH OTHER-COLLISION

51 2 NO YES VEH OTHER-COLLISION

52 1 YES NO FIXED OBJ OTHER-COLLISION

53 3 YES NO VEH VEH

54 1 NO YES FIXED OBJ OTHER-COLLISION

55 2 NO YES VEH FIXED OBJ

[ reached getOption("max.print") -- omitted 16208 rows ]

> dfaccidents <- data.frame(lapply(dfaccidents, trimws), stringsAsFactors = FALSE) #Store new dataframe trimming whitespace on df.

>

> str(dfaccidents) #Now check structure to see if white spaces still prevalent. They are not.

'data.frame': 16263 obs. of 18 variables:

$ CASE\_NUMBER : chr "1363000002" "1296000023" "1283000016" "1282000006" ...

$ BARRACK : chr "Rockville" "Berlin" "Prince Frederick" "Leonardtown" ...

$ ACC\_DATE : chr "2012-01-01T00:00:00" "2012-01-01T00:00:00" "2012-01-01T00:00:00" "2012-01-01T00:00:00" ...

$ ACC\_TIME : chr "2:01" "18:01" "7:01" "0:01" ...

$ ACC\_TIME\_CODE : chr "1" "5" "2" "1" ...

$ DAY\_OF\_WEEK : chr "SUNDAY" "SUNDAY" "SUNDAY" "SUNDAY" ...

$ ROAD : chr "IS 00495 CAPITAL BELTWAY" "MD 00090 OCEAN CITY EXPWY" "MD 00765 MAIN ST" "MD 00944 MERVELL DEAN RD" ...

$ INTERSECT\_ROAD : chr "IS 00270 EISENHOWER MEMORIAL" "CO 00220 ST MARTINS NECK RD" "CO 00208 DUKE ST" "MD 00235 THREE NOTCH RD" ...

$ DIST\_FROM\_INTERSECT: chr "0" "0.25" "100" "10" ...

$ DIST\_DIRECTION : chr "U" "W" "S" "E" ...

$ CITY\_NAME : chr "Not Applicable" "Not Applicable" "Not Applicable" "Not Applicable" ...

$ COUNTY\_CODE : chr "15" "23" "4" "18" ...

$ COUNTY\_NAME : chr "Montgomery" "Worcester" "Calvert" "St. Marys" ...

$ VEHICLE\_COUNT : chr "2" "1" "1" "1" ...

$ PROP\_DEST : chr "YES" "YES" "YES" "YES" ...

$ INJURY : chr "NO" "NO" "NO" "NO" ...

$ COLLISION\_WITH\_1 : chr "VEH" "FIXED OBJ" "FIXED OBJ" "FIXED OBJ" ...

$ COLLISION\_WITH\_2 : chr "OTHER-COLLISION" "OTHER-COLLISION" "FIXED OBJ" "OTHER-COLLISION" ...

>

>

> ###Step 3 SQLDF

> install.packages("sqldf")

Error in install.packages : Updating loaded packages

> library("sqldf")

>

>

>

> #Question1 . How many accidents happen on SUNDAY

> sqldf("select count(\*) from dfaccidents WHERE DAY\_OF\_WEEK like '%SUNDAY%' ")

count(\*)

1 2061

> #OR

> sqldf("select count(\*) from dfaccidents WHERE TRIM(DAY\_OF\_WEEK) = 'SUNDAY' ") #Only works after data trim

count(\*)

1 2061

>

>

> #SUNDAY had 2061 accidents

>

> #Question 2 . How many accidents had injuries (might need to remove NAs from the data) Injury == YES

> sqldf("select count(\*) from dfaccidents WHERE INJURY like '%YES%' ")

count(\*)

1 5639

> #OR

> sqldf("select count(\*) from dfaccidents WHERE INJURY = 'YES' ") #Only works after data trim

count(\*)

1 5639

>

>

> ## 5639 accidents had injuries.

>

>

> #Question 3 . List the injuries by day. Injury == YES

> sqldf("select count(dfaccidents.Injury), Day\_of\_week from dfaccidents where Injury = 'YES' group by DAY\_OF\_WEEK ") #Lists by DAY\_OF\_WEEK

count(dfaccidents.Injury) DAY\_OF\_WEEK

1 915 FRIDAY

2 795 MONDAY

3 827 SATURDAY

4 705 SUNDAY

5 864 THURSDAY

6 748 TUESDAY

7 785 WEDNESDAY

>

>

> ##STEP 4 TAPPLY

>

> #Question1 . How many accidents happen on SUNDAY

> tapply(dfaccidents[dfaccidents$DAY\_OF\_WEEK=='SUNDAY',]$DAY\_OF\_WEEK,dfaccidents[dfaccidents$DAY\_OF\_WEEK=='SUNDAY',]$DAY\_OF\_WEEK,length) #Inside brackets act as filters.

SUNDAY

2061

>

> #SUNDAY had 2061 accidents

>

> #Question 2 Injury == YES

> tapply(dfaccidents[dfaccidents$INJURY=='YES',]$INJURY,dfaccidents[dfaccidents$INJURY=='YES',]$INJURY,length) #Inside brackets act as filters.

YES

5639

>

> ## 5639 accidents had injuries.

>

> #Question 3 . List the injuries by day Injury == YES

> tapply(dfaccidents[dfaccidents$INJURY=='YES',]$INJURY,dfaccidents[dfaccidents$INJURY=='YES',]$DAY\_OF\_WEEK,length) #Inside brackets act as filters.

FRIDAY MONDAY SATURDAY SUNDAY THURSDAY TUESDAY WEDNESDAY

915 795 827 705 864 748 785

>

> ####ANSWERS ARE THE SAME USING SQLDF AND TAPPLY FUNCTIONS

> install.packages("jsonlite")

Error in install.packages : Updating loaded packages

> install.packages("RCurl")

Error in install.packages : Updating loaded packages

> install.packages("sqldf")

Installing package into ‘C:/Users/jdine/Documents/R/win-library/3.3’

(as ‘lib’ is unspecified)

Warning in install.packages :

package ‘sqldf’ is in use and will not be installed

> install.packages("jsonlite")

Installing package into ‘C:/Users/jdine/Documents/R/win-library/3.3’

(as ‘lib’ is unspecified)

Warning in install.packages :

package ‘jsonlite’ is in use and will not be installed

> install.packages("RCurl")

Installing package into ‘C:/Users/jdine/Documents/R/win-library/3.3’

(as ‘lib’ is unspecified)

Warning in install.packages :

package ‘RCurl’ is in use and will not be installed