Web Data Analysis

Analysis task 1

The team wants to analyze each variable of the data collected through data summarization to get a basic understanding of the dataset and to prepare for further analysis.

Using the summary function to perform a summary analysis of the entire dataset the following output was

```
> summary(internet_dataset)
    Bounces           Exits          Continent          Sourcegroup          Timeinpage        Uniquepageviews
 Min.   : 0.000   Min.   : 0.000   Length:32109       Length:32109       Min.   :    0.00   Min.   : 1.000
 1st Qu.: 0.000   1st Qu.: 1.000   Class :character   Class :character   1st Qu.:    0.00   1st Qu.: 1.000
 Median : 1.000   Median : 1.000   Mode  :character   Mode  :character   Median :    0.00   Median : 1.000
 Mean   : 0.713   Mean   : 0.906                                         Mean   :   73.18   Mean   : 1.114
 3rd Qu.: 1.000   3rd Qu.: 1.000                                         3rd Qu.:   10.00   3rd Qu.: 1.000
 Max.   :30.000   Max.   :36.000                                         Max.   :46745.00   Max.   :45.000
     Visits         BouncesNew
 Min.   : 0.000   Min.   :0.00000
 1st Qu.: 1.000   1st Qu.:0.00000
 Median : 1.000   Median :0.01000
 Mean   : 0.906   Mean   :0.00713
 3rd Qu.: 1.000   3rd Qu.:0.01000
 Max.   :45.000   Max.   :0.30000
```

received:

The output clearly displays that the maximum bounce was 30, the maximum exits were 36, the average time spent on a page was 73.18(not specified whether it is in seconds or minutes).

I then proceeded to separate the summary of the data and group the data according to the continents present in the data set to get a clearly understand of user activity per continent.

```
> by(internet_dataset,internet_dataset$Continent, summary)
internet_dataset$Continent: AF
    Bounces            Exits           Continent          Sourcegroup          Timeinpage        Uniquepageviews
 Min.   :0.000000   Min.   :0.0000   Length:321         Length:321         Min.   :   0.00   Min.   :1.000
 1st Qu.:0.000000   1st Qu.:1.0000   Class :character   Class :character   1st Qu.:   0.00   1st Qu.:1.000
 Median :0.010000   Median :1.0000   Mode  :character   Mode  :character   Median :   0.00   Median :1.000
 Mean   :0.007196   Mean   :0.8847                                         Mean   :  55.23   Mean   :1.053
 3rd Qu.:0.010000   3rd Qu.:1.0000                                         3rd Qu.:   0.00   3rd Qu.:1.000
 Max.   :0.030000   Max.   :3.0000                                         Max.   :2613.00   Max.   :3.000
     Visits          BouncesNew
 Min.   :0.0000   Min.   :0.000000
 1st Qu.:1.0000   1st Qu.:0.000000
 Median :1.0000   Median :0.010000
 Mean   :0.8847   Mean   :0.007196
 3rd Qu.:1.0000   3rd Qu.:0.010000
 Max.   :3.0000   Max.   :0.030000
--------------------------------------------------------------------------
internet_dataset$Continent: AS
    Bounces           Exits           Continent          Sourcegroup          Timeinpage        Uniquepageviews
 Min.   :0.00000   Min.   :0.0000   Length:3171        Length:3171        Min.   :   0.00   Min.   :1.000
 1st Qu.:0.00000   1st Qu.:1.0000   Class :character   Class :character   1st Qu.:   0.00   1st Qu.:1.000
 Median :0.01000   Median :1.0000   Mode  :character   Mode  :character   Median :   0.00   Median :1.000
 Mean   :0.00731   Mean   :0.9085                                         Mean   :  60.85   Mean   :1.071
 3rd Qu.:0.01000   3rd Qu.:1.0000                                         3rd Qu.:   2.00   3rd Qu.:1.000
 Max.   :0.05000   Max.   :5.0000                                         Max.   :5197.00   Max.   :8.000
     Visits          BouncesNew
 Min.   :0.0000   Min.   :0.00000
 1st Qu.:1.0000   1st Qu.:0.00000
 Median :1.0000   Median :0.01000
 Mean   :0.9085   Mean   :0.00731
 3rd Qu.:1.0000   3rd Qu.:0.01000
 Max.   :7.0000   Max.   :0.05000
--------------------------------------------------------------------------
```

```
----------------------------------------------------------------------------
internet_dataset$Continent: EU
    Bounces             Exits           Continent         Sourcegroup          Timeinpage          Uniquepageviews
 Min.   :0.000000   Min.   : 0.0000   Length:6470       Length:6470        Min.   :    0.00    Min.   : 1.000
 1st Qu.:0.000000   1st Qu.: 1.0000   Class :character  Class :character   1st Qu.:    0.00    1st Qu.: 1.000
 Median :0.010000   Median : 1.0000   Mode  :character  Mode  :character   Median :    0.00    Median : 1.000
 Mean   :0.007134   Mean   : 0.8981                                        Mean   :   60.36    Mean   : 1.075
 3rd Qu.:0.010000   3rd Qu.: 1.0000                                        3rd Qu.:    4.00    3rd Qu.: 1.000
 Max.   :0.090000   Max.   :10.0000                                        Max.   :14392.00    Max.   :11.000
     Visits             BouncesNew
 Min.   : 0.0000   Min.   :0.000000
 1st Qu.: 1.0000   1st Qu.:0.000000
 Median : 1.0000   Median :0.010000
 Mean   : 0.8981   Mean   :0.007134
 3rd Qu.: 1.0000   3rd Qu.:0.010000
 Max.   :11.0000   Max.   :0.090000
----------------------------------------------------------------------------
internet_dataset$Continent: N.America
    Bounces             Exits           Continent          Sourcegroup          Timeinpage          Uniquepageviews
 Min.   :0.000000   Min.   : 0.0000   Length:20043       Length:20043       Min.   :    0.00    Min.   : 1.000
 1st Qu.:0.000000   1st Qu.: 1.0000   Class :character   Class :character   1st Qu.:    0.00    1st Qu.: 1.000
 Median :0.010000   Median : 1.0000   Mode  :character   Mode  :character   Median :    0.00    Median : 1.000
 Mean   :0.007079   Mean   : 0.9089                                         Mean   :   77.56    Mean   : 1.138
 3rd Qu.:0.010000   3rd Qu.: 1.0000                                         3rd Qu.:   14.00    3rd Qu.: 1.000
 Max.   :0.300000   Max.   :36.0000                                         Max.   :14108.00    Max.   :45.000
     Visits             BouncesNew
 Min.   : 0.0000   Min.   :0.000000
 1st Qu.: 1.0000   1st Qu.:0.000000
 Median : 1.0000   Median :0.010000
 Mean   : 0.9089   Mean   :0.007079
 3rd Qu.: 1.0000   3rd Qu.:0.010000
 Max.   :45.0000   Max.   :0.300000
----------------------------------------------------------------------------
internet_dataset$Continent: OC
    Bounces             Exits           Continent         Sourcegroup          Timeinpage          Uniquepageviews
 Min.   :0.000000   Min.   :0.0000    Length:1356       Length:1356        Min.   :   0.00     Min.   :1.000
 1st Qu.:0.000000   1st Qu.:1.0000    Class :character  Class :character   1st Qu.:   0.00     1st Qu.:1.000
 Median :0.010000   Median :1.0000    Mode  :character  Mode  :character   Median :   0.00     Median :1.000
 Mean   :0.007404   Mean   :0.9027                                         Mean   :  66.23     Mean   :1.071
 3rd Qu.:0.010000   3rd Qu.:1.0000                                         3rd Qu.:   1.00     3rd Qu.:1.000
 Max.   :0.050000   Max.   :6.0000                                         Max.   :3246.00     Max.   :6.000
     Visits             BouncesNew
 Min.   :0.0000    Min.   :0.000000
 1st Qu.:1.0000    1st Qu.:0.000000
 Median :1.0000    Median :0.010000
 Mean   :0.9027    Mean   :0.007404
 3rd Qu.:1.0000    3rd Qu.:0.010000
 Max.   :6.0000    Max.   :0.050000
----------------------------------------------------------------------------
internet_dataset$Continent: SA
    Bounces             Exits           Continent         Sourcegroup          Timeinpage          Uniquepageviews
 Min.   :0.000000   Min.   :0.0000    Length:748        Length:748         Min.   :    0.00    Min.   :1.00
 1st Qu.:0.000000   1st Qu.:1.0000    Class :character  Class :character   1st Qu.:    0.00    1st Qu.:1.00
 Median :0.010000   Median :1.0000    Mode  :character  Mode  :character   Median :    0.00    Median :1.00
 Mean   :0.007179   Mean   :0.9037                                         Mean   :  139.42    Mean   :1.11
 3rd Qu.:0.010000   3rd Qu.:1.0000                                         3rd Qu.:    7.25    3rd Qu.:1.00
 Max.   :0.050000   Max.   :5.0000                                         Max.   :46745.00    Max.   :5.00
     Visits             BouncesNew
 Min.   :0.0000    Min.   :0.000000
 1st Qu.:1.0000    1st Qu.:0.000000
 Median :1.0000    Median :0.010000
 Mean   :0.9037    Mean   :0.007179
 3rd Qu.:1.0000    3rd Qu.:0.010000
 Max.   :5.0000    Max.   :0.050000
>
```

From the data above it is observed that the continent with the most unique page views, most visits, most bounces is North America although it does have the most exits. While the continent with the most time spent in page is SA. The continent with the least time spent on page is AF.

I then proceeded to group the data by the source group to obtain a detailed summary of the activities of each source group that uses the web site:

```
> by(internet_dataset,internet_dataset$Sourcegroup, summary)
internet_dataset$Sourcegroup: (direct)
    Bounces              Exits           Continent        Sourcegroup        Timeinpage          Uniquepageviews
 Min.   :0.000000   Min.   : 0.000   Length:7532       Length:7532       Min.   :   0.00   Min.   : 1.000
 1st Qu.:0.000000   1st Qu.: 1.000   Class :character  Class :character  1st Qu.:   0.00   1st Qu.: 1.000
 Median :0.010000   Median : 1.000   Mode  :character  Mode  :character  Median :   0.00   Median : 1.000
 Mean   :0.008323   Mean   : 1.017                                       Mean   :  70.71   Mean   : 1.226
 3rd Qu.:0.010000   3rd Qu.: 1.000                                       3rd Qu.:   6.00   3rd Qu.: 1.000
 Max.   :0.300000   Max.   :36.000                                       Max.   :6062.00   Max.   :45.000
    Visits           BouncesNew
 Min.   : 0.000   Min.   :0.000000
 1st Qu.: 1.000   1st Qu.:0.000000
 Median : 1.000   Median :0.010000
 Mean   : 1.017   Mean   :0.008323
 3rd Qu.: 1.000   3rd Qu.:0.010000
 Max.   :45.000   Max.   :0.300000
------------------------------------------------------------------------------------
internet_dataset$Sourcegroup: facebook
    Bounces              Exits           Continent        Sourcegroup        Timeinpage          Uniquepageviews
 Min.   :0.00000   Min.   :0.000   Length:92         Length:92         Min.   :   0.00   Min.   :1.000
 1st Qu.:0.01000   1st Qu.:1.000   Class :character  Class :character  1st Qu.:   0.00   1st Qu.:1.000
 Median :0.01000   Median :1.000   Mode  :character  Mode  :character  Median :   0.00   Median :1.000
 Mean   :0.00913   Mean   :1.076                                       Mean   :  57.21   Mean   :1.109
 3rd Qu.:0.01000   3rd Qu.:1.000                                       3rd Qu.:   0.00   3rd Qu.:1.000
 Max.   :0.02000   Max.   :2.000                                       Max.   :1195.00   Max.   :2.000
    Visits           BouncesNew
 Min.   :0.000   Min.   :0.00000
 1st Qu.:1.000   1st Qu.:0.01000
 Median :1.000   Median :0.01000
 Mean   :1.076   Mean   :0.00913
 3rd Qu.:1.000   3rd Qu.:0.01000
 Max.   :2.000   Max.   :0.02000
------------------------------------------------------------------------------------
internet_dataset$Sourcegroup: google
    Bounces              Exits           Continent        Sourcegroup        Timeinpage          Uniquepageviews
 Min.   :0.000000   Min.   :0.0000   Length:11542      Length:11542      Min.   :    0.00   Min.   :1.00
 1st Qu.:0.000000   1st Qu.:1.0000   Class :character  Class :character  1st Qu.:    0.00   1st Qu.:1.00
 Median :0.010000   Median :1.0000   Mode  :character  Mode  :character  Median :    0.00   Median :1.00
 Mean   :0.007565   Mean   :0.9392                                       Mean   :   67.31   Mean   :1.07
 3rd Qu.:0.010000   3rd Qu.:1.0000                                       3rd Qu.:    0.00   3rd Qu.:1.00
 Max.   :0.050000   Max.   :6.0000                                       Max.   :46745.00   Max.   :6.00
    Visits           BouncesNew
 Min.   :0.0000   Min.   :0.000000
 1st Qu.:1.0000   1st Qu.:0.000000
 Median :1.0000   Median :0.010000
 Mean   :0.9389   Mean   :0.007565
 3rd Qu.:1.0000   3rd Qu.:0.010000
 Max.   :6.0000   Max.   :0.050000
------------------------------------------------------------------------------------
```

```
-------------------------------------------------------------------------------
internet_dataset$Sourcegroup: Others
    Bounces             Exits           Continent        Sourcegroup        Timeinpage        Uniquepageviews
 Min.   :0.000000   Min.   :0.000   Length:5360       Length:5360        Min.   :   0.00   Min.   :1.000
 1st Qu.:0.000000   1st Qu.:1.000   Class :character  Class :character   1st Qu.:   0.00   1st Qu.:1.000
 Median :0.010000   Median :1.000   Mode  :character  Mode  :character   Median :   0.00   Median :1.000
 Mean   :0.006368   Mean   :0.833                                        Mean   :  70.38   Mean   :1.067
 3rd Qu.:0.010000   3rd Qu.:1.000                                        3rd Qu.:  12.00   3rd Qu.:1.000
 Max.   :0.080000   Max.   :8.000                                        Max.   :4190.00   Max.   :8.000
    Visits            BouncesNew
 Min.   :0.0000   Min.   :0.000000
 1st Qu.:1.0000   1st Qu.:0.000000
 Median :1.0000   Median :0.010000
 Mean   :0.8334   Mean   :0.006368
 3rd Qu.:1.0000   3rd Qu.:0.010000
 Max.   :8.0000   Max.   :0.080000
-------------------------------------------------------------------------------
internet_dataset$Sourcegroup: public.tableausoftware.com
    Bounces             Exits           Continent        Sourcegroup        Timeinpage        Uniquepageviews
 Min.   :0.000000   Min.   :0.0000   Length:1354       Length:1354        Min.   :   0.00   Min.   :1.000
 1st Qu.:0.000000   1st Qu.:0.0000   Class :character  Class :character   1st Qu.:   0.00   1st Qu.:1.000
 Median :0.000000   Median :1.0000   Mode  :character  Mode  :character   Median :  12.00   Median :1.000
 Mean   :0.003331   Mean   :0.6477                                        Mean   : 134.32   Mean   :1.123
 3rd Qu.:0.010000   3rd Qu.:1.0000                                        3rd Qu.:  72.75   3rd Qu.:1.000
 Max.   :0.030000   Max.   :4.0000                                        Max.   :4561.00   Max.   :6.000
    Visits            BouncesNew
 Min.   :0.0000   Min.   :0.000000
 1st Qu.:0.0000   1st Qu.:0.000000
 Median :1.0000   Median :0.000000
 Mean   :0.6477   Mean   :0.003331
 3rd Qu.:1.0000   3rd Qu.:0.010000
 Max.   :6.0000   Max.   :0.030000
-------------------------------------------------------------------------------
internet_dataset$Sourcegroup: reddit.com
    Bounces             Exits           Continent        Sourcegroup        Timeinpage        Uniquepageviews
 Min.   :0.000000   Min.   :0.0000   Length:616        Length:616         Min.   :   0.0    Min.   :1.000
 1st Qu.:0.007500   1st Qu.:1.0000   Class :character  Class :character   1st Qu.:   0.0    1st Qu.:1.000
 Median :0.010000   Median :1.0000   Mode  :character  Mode  :character   Median :   0.0    Median :1.000
 Mean   :0.008036   Mean   :0.9432                                        Mean   :  49.2    Mean   :1.086
 3rd Qu.:0.010000   3rd Qu.:1.0000                                        3rd Qu.:   0.0    3rd Qu.:1.000
 Max.   :0.040000   Max.   :4.0000                                        Max.   :2047.0    Max.   :5.000
    Visits            BouncesNew
 Min.   :0.0000   Min.   :0.000000
 1st Qu.:1.0000   1st Qu.:0.007500
 Median :1.0000   Median :0.010000
 Mean   :0.9432   Mean   :0.008036
 3rd Qu.:1.0000   3rd Qu.:0.010000
 Max.   :5.0000   Max.   :0.040000
-------------------------------------------------------------------------------
```

```
internet_dataset$Sourcegroup: t.co
    Bounces              Exits            Continent        Sourcegroup          Timeinpage         Uniquepageviews
 Min.   :0.000000   Min.   : 0.0000   Length:2249      Length:2249       Min.   :    0.00   Min.   : 1.000
 1st Qu.:0.000000   1st Qu.: 1.0000   Class :character Class :character  1st Qu.:    0.00   1st Qu.: 1.000
 Median :0.010000   Median : 1.0000   Mode  :character Mode  :character  Median :    0.00   Median : 1.000
 Mean   :0.007661   Mean   : 0.9289                                      Mean   :   69.92   Mean   : 1.146
 3rd Qu.:0.010000   3rd Qu.: 1.0000                                      3rd Qu.:    5.00   3rd Qu.: 1.000
 Max.   :0.090000   Max.   :10.0000                                      Max.   :14108.00   Max.   :11.000
    Visits            BouncesNew
 Min.   : 0.0000   Min.   :0.000000
 1st Qu.: 1.0000   1st Qu.:0.000000
 Median : 1.0000   Median :0.010000
 Mean   : 0.9289   Mean   :0.007661
 3rd Qu.: 1.0000   3rd Qu.:0.010000
 Max.   :11.0000   Max.   :0.090000
-----------------------------------------------------------------------------
internet_dataset$Sourcegroup: tableausoftware.com
    Bounces              Exits            Continent        Sourcegroup          Timeinpage         Uniquepageviews
 Min.   :0.000000   Min.   :0.0000   Length:2388      Length:2388       Min.   :   0.00   Min.   :1.000
 1st Qu.:0.000000   1st Qu.:0.0000   Class :character Class :character  1st Qu.:   0.00   1st Qu.:1.000
 Median :0.000000   Median :1.0000   Mode  :character Mode  :character  Median :   0.00   Median :1.000
 Mean   :0.005054   Mean   :0.7374                                      Mean   :  90.85   Mean   :1.072
 3rd Qu.:0.010000   3rd Qu.:1.0000                                      3rd Qu.:  32.00   3rd Qu.:1.000
 Max.   :0.040000   Max.   :4.0000                                      Max.   :4707.00   Max.   :5.000
    Visits            BouncesNew
 Min.   :0.0000   Min.   :0.000000
 1st Qu.:0.0000   1st Qu.:0.000000
 Median :1.0000   Median :0.000000
 Mean   :0.7374   Mean   :0.005054
 3rd Qu.:1.0000   3rd Qu.:0.010000
 Max.   :5.0000   Max.   :0.040000
-----------------------------------------------------------------------------
internet_dataset$Sourcegroup: visualisingdata.com
    Bounces              Exits            Continent        Sourcegroup          Timeinpage         Uniquepageviews
 Min.   :0.000000   Min.   :0.0000   Length:976       Length:976        Min.   :   0.00   Min.   :1.000
 1st Qu.:0.000000   1st Qu.:0.0000   Class :character Class :character  1st Qu.:   0.00   1st Qu.:1.000
 Median :0.010000   Median :1.0000   Mode  :character Mode  :character  Median :   0.00   Median :1.000
 Mean   :0.005338   Mean   :0.7387                                      Mean   :  73.27   Mean   :1.078
 3rd Qu.:0.010000   3rd Qu.:1.0000                                      3rd Qu.:  31.00   3rd Qu.:1.000
 Max.   :0.030000   Max.   :3.0000                                      Max.   :2954.00   Max.   :5.000
    Visits            BouncesNew
 Min.   :0.0000   Min.   :0.000000
 1st Qu.:0.0000   1st Qu.:0.000000
 Median :1.0000   Median :0.010000
 Mean   :0.7387   Mean   :0.005338
 3rd Qu.:1.0000   3rd Qu.:0.010000
 Max.   :5.0000   Max.   :0.030000
```

By grouping the data by the source groups it is observed that that source group with the most unique page views, most exits, most visits is (direct) followed closely by t.co respectively. Facebook is the source group with the least amount of unique page views and visits. While the google source group is the one that has spent the most time on the website.
The direct source group is the one with the greatest number of bounces.

Analysis task 2

As mentioned earlier, a unique page view represents the number of sessions during which that page was viewed one or more times. A visit counts all instances, no matter how many times the same visitor may have been to your site. So the team needs to know whether the unique page view value depends on visits.

Using the correlation function we observed that there is a strong positive linear relationship between the unique page views and visits. Therefore the team can conclude that the unique page view value depends on visits.

```
> cor(internet_dataset$Uniquepageviews,internet_dataset$Visits)
[1] 0.8144457
```

Analysis task 3

Find out the probable factors from the dataset, which could affect the exits. Exit Page Analysis is usually required to get an idea about why a user leaves the website for a session and moves on to another one. Please keep in mind that exits should not be confused with bounces.

```
> anovaexits<-aov(Exits~.,data = internet_dataset)
> summary(anovaexits)
                 Df Sum Sq Mean Sq   F value    Pr(>F)
Bounces           1  10578   10578 1.043e+05  < 2e-16 ***
Continent         5      3       1 5.960e+00 1.62e-05 ***
Sourcegroup       8      7       1 8.760e+00 4.89e-12 ***
Timeinpage        1    130     130 1.279e+03  < 2e-16 ***
Uniquepageviews   1   1573    1573 1.552e+04  < 2e-16 ***
Visits            1      1       1 5.014e+00   0.0251 *
Residuals     32091   3254       0
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 \
```

As we have observed from the results of the analysis of variance above that the unique pageviews, source groups and bounces have more significance over exits. Therefore we can safely deduce that the exits are affected by the following factors:

- unique pageviews
- source groups
- bounces

Analysis task 4

Every site wants to increase the time on page for a visitor. This increases the chances of the visitor understanding the site content better and hence there are more chances of a transaction taking place. Find the variables which possibly have an effect on the time on page.

```
> anovatime<-aov(Timeinpage~.,data = internet_dataset)
> summary(anovatime)
                   Df    Sum Sq   Mean Sq F value   Pr(>F)
Bounces             1 5.947e+07  59466495  422.868  < 2e-16 ***
Exits               1 1.304e+08 130400662  927.283  < 2e-16 ***
Continent           5 4.767e+06    953431    6.780 2.51e-06 ***
Sourcegroup         8 1.545e+06    193153    1.374    0.202
Uniquepageviews     1 1.791e+08 179133934 1273.826  < 2e-16 ***
Visits              1 1.073e+08 107321113  763.163  < 2e-16 ***
Residuals       32091 4.513e+09    140627
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

From the analysis of variance results above we have observed and can safely conclude that the source group is the only variable that is not affecting the time spent in page due to the significantly low F value. However the other variables observed such as the bounces, exits ,continent, unique page view and visits greatly affect and influence the time spent in page.

Analysis task 5

A high bounce rate is a cause of alarm for websites which depend on visitor engagement. Help the team in determining the factors that are impacting the bounce.

```
> internet_dataset$Bounces=internet_dataset$Bounces*0.01
> model<-glm(Bounces~Timeinpage+Continent+Exits+Sourcegroup+Uniquepageviews+Visits,data = internet_dataset,family = "binomia
l")
Warning messages:
1: In eval(family$initialize) : non-integer #successes in a binomial glm!
2: glm.fit: fitted probabilities numerically 0 or 1 occurred
> summary(model)

Call:
glm(formula = Bounces ~ Timeinpage + Continent + Exits + Sourcegroup +
    Uniquepageviews + Visits, family = "binomial", data = internet_dataset)

Deviance Residuals:
    Min       1Q    Median        3Q       Max
-2.26149  -0.02406   0.00206   0.00895   1.81288

Coefficients:
                                         Estimate Std. Error z value Pr(>|z|)
(Intercept)                            -4.9667681  0.6784678  -7.321 2.47e-13 ***
Timeinpage                             -0.0010294  0.0005774  -1.783   0.0746 .
ContinentAS                             0.0022768  0.6932044   0.003   0.9974
ContinentEU                            -0.0069240  0.6786600  -0.010   0.9919
ContinentN.America                      0.0101334  0.6674188   0.015   0.9879
ContinentOC                             0.0201123  0.7333671   0.027   0.9781
ContinentSA                             0.0237507  0.7914250   0.030   0.9761
Exits                                   1.3907608  0.3356504   4.143 3.42e-05 ***
Sourcegroupfacebook                    -0.0241949  1.1045171  -0.022   0.9825
Sourcegroupgoogle                      -0.0783631  0.1720157  -0.456   0.6487
SourcegroupOthers                      -0.0767919  0.2182692  -0.352   0.7250
Sourcegrouppublic.tableausoftware.com  -0.2528285  0.4923123  -0.514   0.6076
Sourcegroupreddit.com                  -0.0092792  0.4709304  -0.020   0.9843
Sourcegroupt.co                         0.0148690  0.2760157   0.054   0.9570
Sourcegrouptableausoftware.com         -0.1129305  0.3190762  -0.354   0.7234
Sourcegroupvisualisingdata.com         -0.0822525  0.4614866  -0.178   0.8585
Uniquepageviews                        -3.2363108  0.5791664  -5.588 2.30e-08 ***
Visits                                  2.1941121  0.5202216   4.218 2.47e-05 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

    Null deviance: 234.937  on 32108  degrees of freedom
Residual deviance:  96.514  on 32091  degrees of freedom
AIC: 506.56

Number of Fisher Scoring iterations: 11
```

We have observed from the above summary of the generalized linear regression model that the unique page views along with the visits are the two variables that are the contributing main factors toward the impact on the bounce.