28DEGMC_TRAVEL_Q

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```
knitr::opts_chunk$set(echo = FALSE)
library(DBI)
library(dplyr)
library(dbplyr)
library(odbc)
library(DT)
library(tidyverse)
library(data.table)
library(waterfalls)
library(ggplot2)
library(janitor)
library(scales)
library (sqldf)
library(ggthemes)
library(plyr)
```

Waterfall report for 28DEGMC MARKETABLE BASE

```
##   IF_ACMA_SPAMHAUS_ELIG ACMA_OPTIN SPAMHAUS_OPTIN      n
## 1                     0          I          <NA>  73116
## 2                     0       <NA>             I  54402
## 3                     0       <NA>          <NA> 129182
## 4                     1          I             I  97909
```

```
##   IF_NOT_MARKETABLE_FLAG MARKETABLE_CARDS_FLAG DNS_CLVLE_DIGITAL_FLAG      n
## 1                      0                     Y                      I 182180
## 2                      1                     N                      I  58261
## 3                      1                     N                      O  52559
## 4                      1                     Y                      O  61609
```

```
##                  DROPOUT_FLAG      n
## 1        1.ACCT-NOT-ACTIVE-EXCL  71262
## 2 2.NON-MARKETABLE-AND-DNS-EXCL 101167
## 3        3.MISSING-CONTACT-EXCL   2886
## 4       4.OTB-LESSTHAN-300-EXCL   3151
## 5            Total Passed Wash 176143
```

Waterfall Report for 28DEGMC
Total MARKETABLE

Category	Value
AU Cards-Total	354609
Total Passed Wash	176143
4.OTB-LESSTHAN-300-EXCL	3151
3.MISSING-CONTACT-EXCL	2886
2.NON-MARKETABLE-AND-DNS-EXCL	101167
1.ACCT-NOT-ACTIVE-EXCL	71262
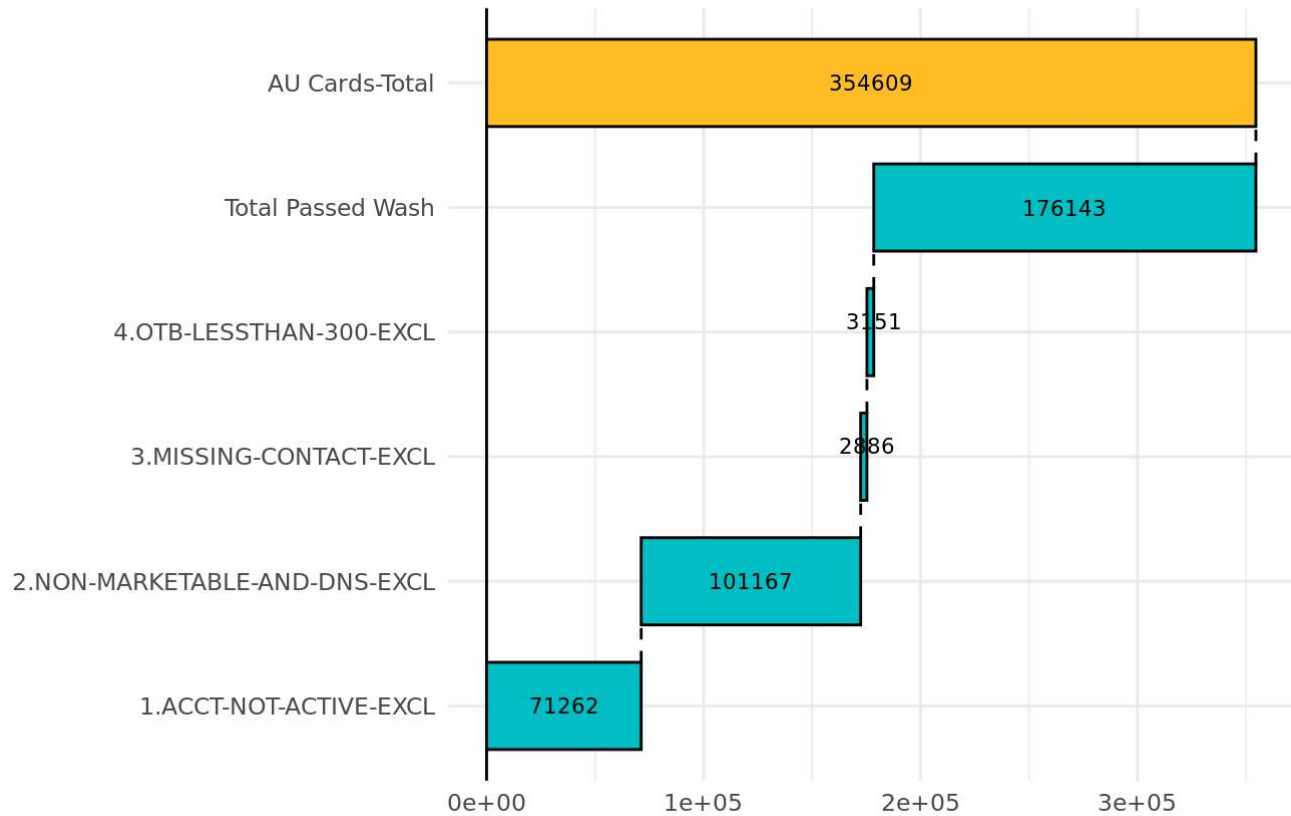
28DEGMC ACCOUNTS MARKETABLE BASE

```
##         x   freq
## 1 28DEGMC 176143
```

```
## [1]    300.33 147020.50
```

```
##   IF_ACMA_SPAMHAUS_ELIG ACMA_OPTIN SPAMHAUS_OPTIN     n
## 1                     0          I           <NA> 71509
## 2                     0       <NA>              I  2631
## 3                     0       <NA>           <NA>  6128
## 4                     1          I              I 95875
```

```
## No duplicate combinations found of: CUST_ACCT_APPL_ID
```

```
##   n
## 1 0
```

AVG INTERNATIONAL QUATERLY SPEND IN PAST YEAR

GET THE PREDICTION TABLE

Join account table, txn table & predition table

```
##                 SUBSEG        n
## 1  1.SCH_MORE_OVER_$500 31715
## 2 2.SCH_MORE_UNDER_$500 34379
## 3          3.SCH_LESS 46455
## 4      4.SCH_INACTIVE 63589
## 5              <NA>        5
```

```
##   CRM_PRODUCT        n
## 1     28DEGMC 176143
```

TOTAL COUNT WITH CRM_OTB_AMT >= $1000 | COUNT OF SUBSEGMENTS

```
##   CRM_PRODUCT        n
## 1     28DEGMC 176143
```

```
##   CRM_PRODUCT      n
## 1     28DEGMC 5775
```

```
##                 SUBSEG        n
## 1  1.SCH_MORE_OVER_$500 31715
## 2 2.SCH_MORE_UNDER_$500 34379
## 3          3.SCH_LESS 46455
## 4      4.SCH_INACTIVE 63589
## 5              <NA>        5
```

CALCULATING THE $ THRESHOLD AND THE OFFER AMOUNT

```
## [1]    300.33 147020.50
```

```
##                       Spend threshold > 6000 threshold > Cl
##
## 1.SCH_MORE_OVER_$500                    904          1259
## 2.SCH_MORE_UNDER_$500                     0          1840
## 3.SCH_LESS                                0          1620
## 4.SCH_INACTIVE                            0           417
```

```
##        x   freq
## 1 28DEGMC 176138
```

```
## [1]    300.33 147020.50
```

```
## [1] 1000 6000
```

```
##                                           100    150     50
##
## 1.SCH_MORE_OVER_$500  $1000            0      0      0
##                       $1200-$1499      0      0      0
##                       $1500-$2000      0      0      0
##                       $2001-$3000      0  21289      0
##                       $3001-$4000      0   3913      0
##                       $4001-$6000      0   6513      0
## 2.SCH_MORE_UNDER_$500 $1000            0      0      0
##                       $1200-$1499      0      0      0
##                       $1500-$2000  24915      0      0
##                       $2001-$3000   6329      0      0
##                       $3001-$4000   3135      0      0
##                       $4001-$6000      0      0      0
## 3.SCH_LESS            $1000            0      0      0
##                       $1200-$1499      0      0  17655
##                       $1500-$2000      0      0  21995
##                       $2001-$3000      0      0   6805
##                       $3001-$4000      0      0      0
##                       $4001-$6000      0      0      0
## 4.SCH_INACTIVE        $1000            0      0  63589
##                       $1200-$1499      0      0      0
##                       $1500-$2000      0      0      0
##                       $2001-$3000      0      0      0
##                       $3001-$4000      0      0      0
##                       $4001-$6000      0      0      0
```
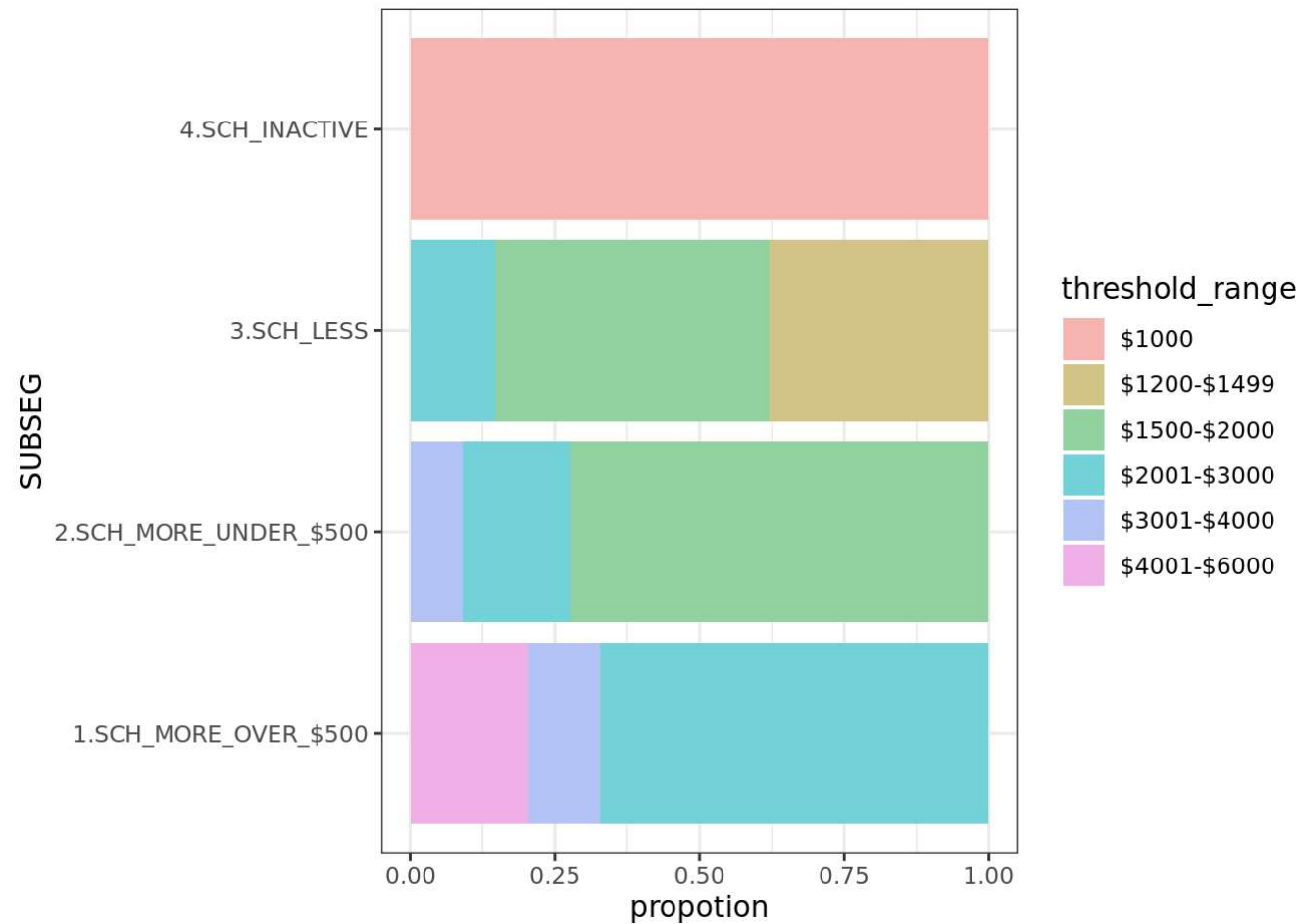
FREQUENCIES OF TOTAL PASS WASH

```
##                        x  freq
## 1  1.SCH_MORE_OVER_$500 31715
## 2 2.SCH_MORE_UNDER_$500 34379
## 3            3.SCH_LESS 46455
## 4         4.SCH_INACTIVE 63589
```
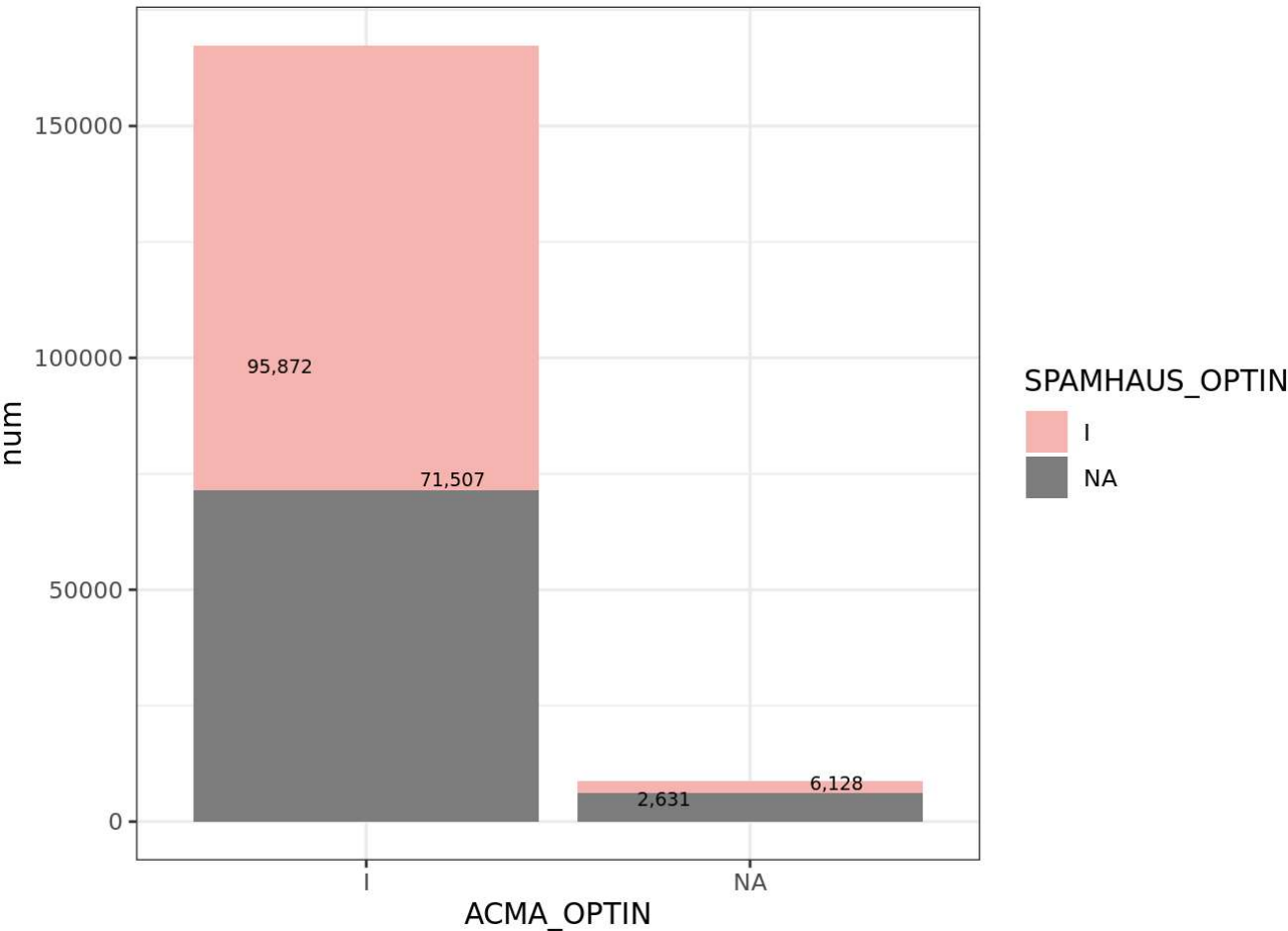
```
##         x    freq
## 1 28DEGMC 176138
```

```
##           I
##
## Y  176138
```

```
##                          0      1
##
## 1.SCH_MORE_OVER_$500   11785 19930
## 2.SCH_MORE_UNDER_$500  13380 20999
## 3.SCH_LESS             18102 28353
## 4.SCH_INACTIVE         36999 26590
```

```
##            I
##
## 0 I        0
## 1 I  95872
```

```
## `summarise()` has grouped output by 'ACMA_OPTIN'. You can override using the
## `.groups` argument.
```


BUILDING THE CAMPAIGN DATA CONTROL GROUP AND OFFER_ACTIVATED_FLAG & SPEND_QUALIFIED_FLAG

```
## [1] 176138      23
```
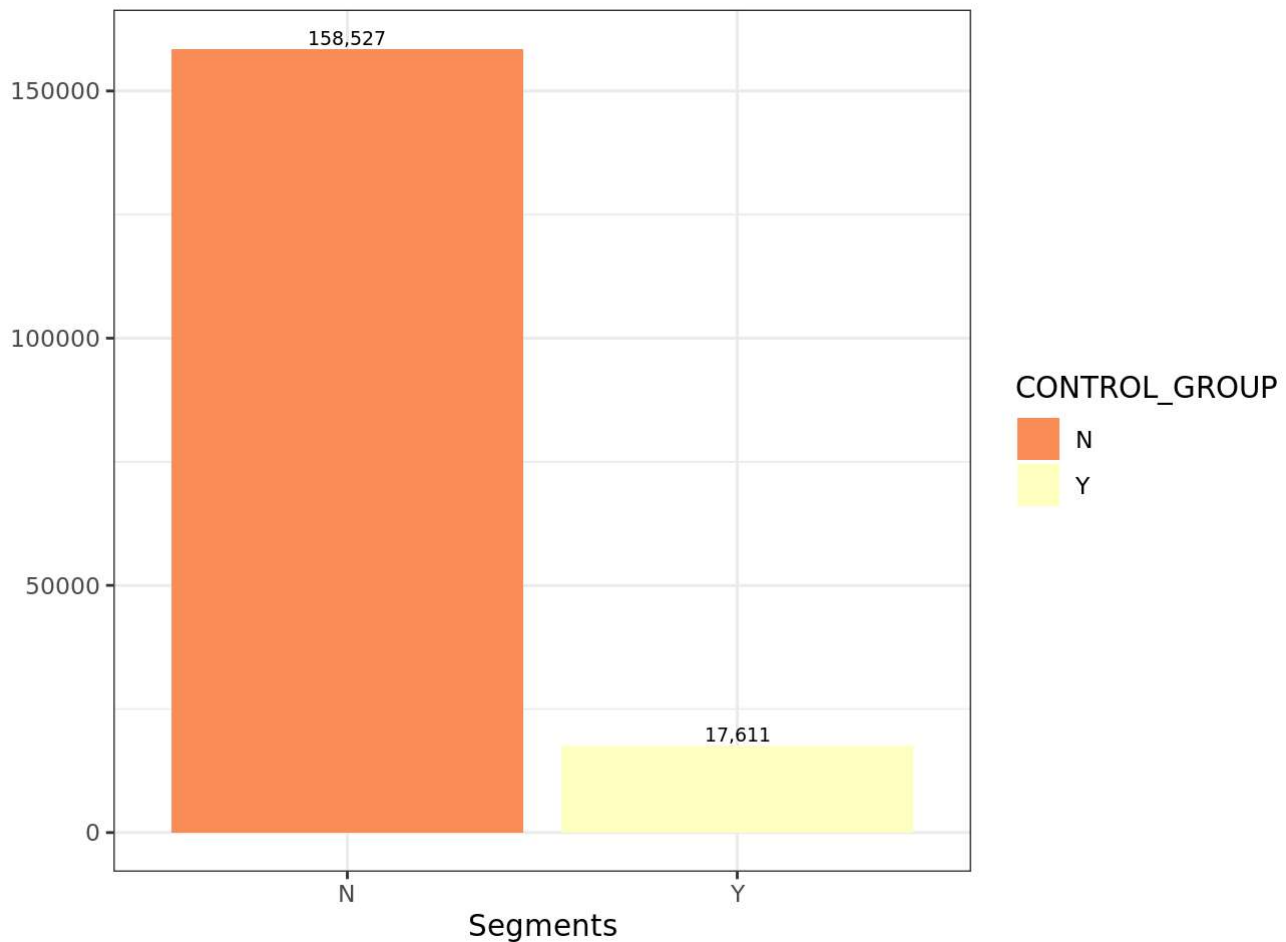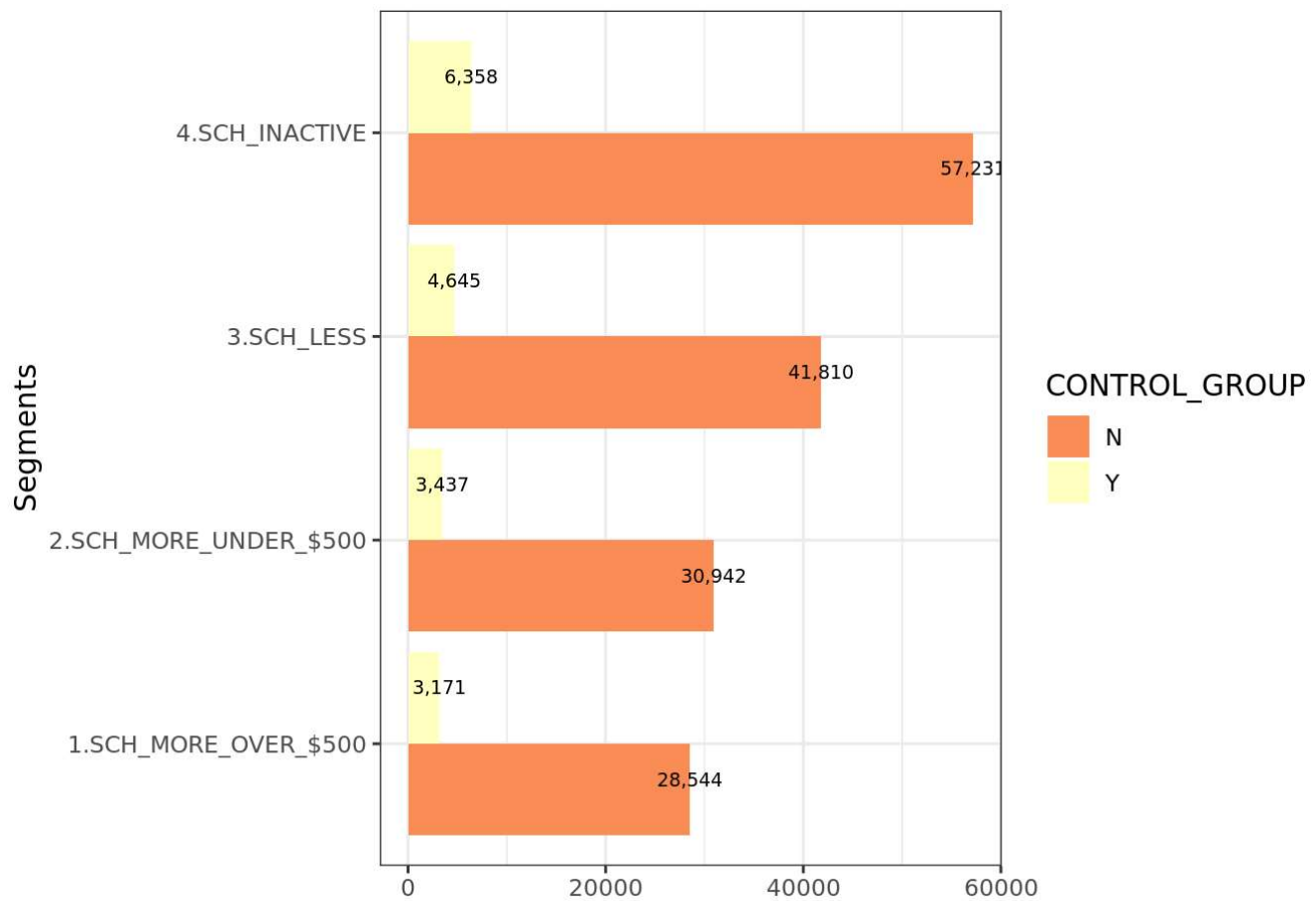
```
## [1] 176138      14
```

CHECK CONTROL_GROUP & SUBSEGS

```
##                             N      Y
##
## 1.SCH_MORE_OVER_$500    28544   3171
## 2.SCH_MORE_UNDER_$500   30942   3437
## 3.SCH_LESS              41810   4645
## 4.SCH_INACTIVE          57231   6358
```

```
##                       x  freq
## 1  1.SCH_MORE_OVER_$500 31715
## 2 2.SCH_MORE_UNDER_$500 34379
## 3            3.SCH_LESS 46455
## 4        4.SCH_INACTIVE 63589
```

```
##         x   freq
## 1 28DEGMC 176138
```
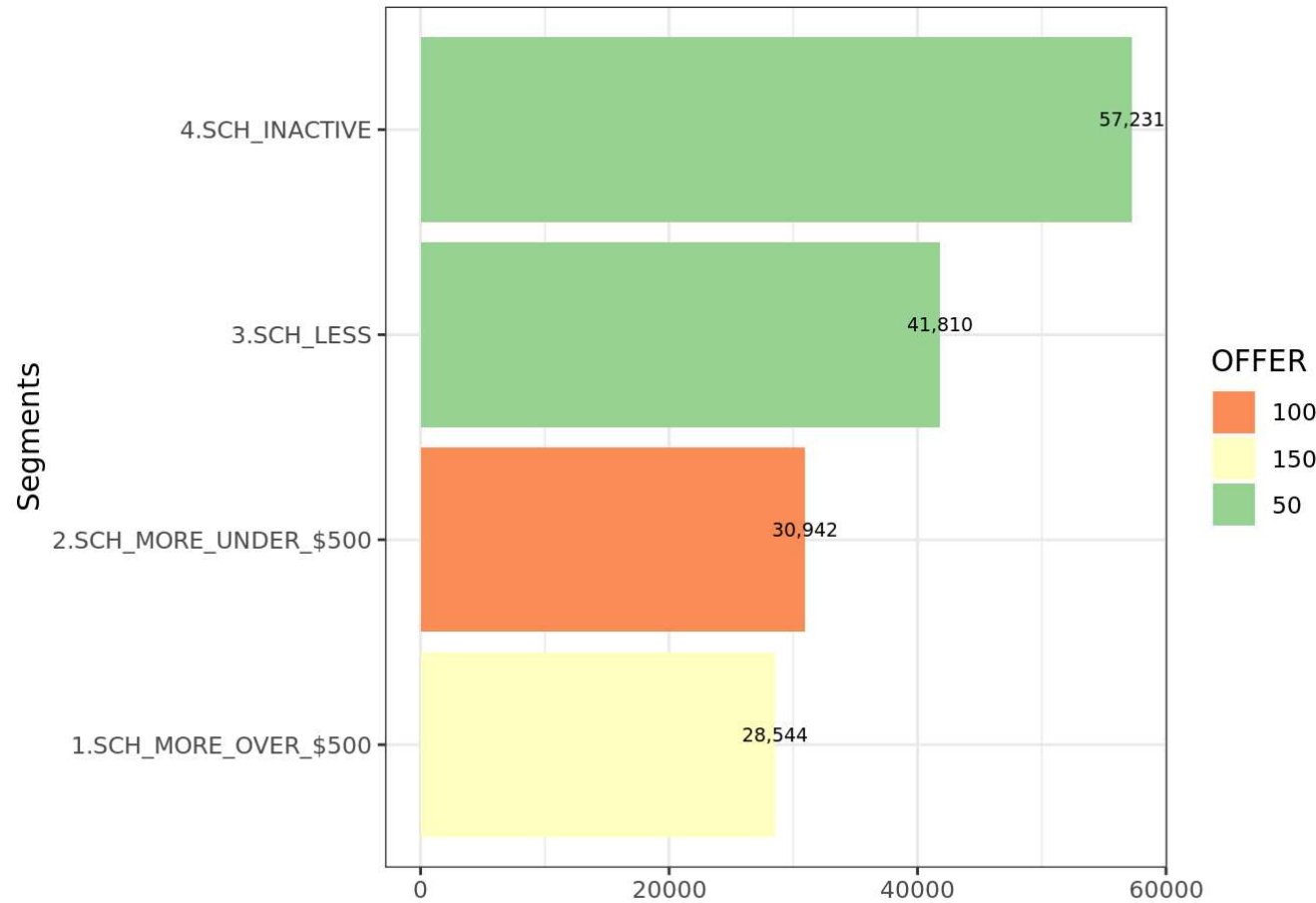
```
##
##
##   176138
```



```
## `summarise()` has grouped output by 'SUBSEG'. You can override using the
## `.groups` argument.
```

```
## `summarise()` has grouped output by 'SUBSEG'. You can override using the
## `.groups` argument.
```

TEST SEEDS TO GENERATE FOR OFFER_ACTIVATED_FLAG & SPEND_QUALIFIED_FLAG

```
##       N Y
##
## N N  4 4
##   Y  4 4
## Y N  4 0
##   Y  0 0
```

```
## tibble [20 × 14] (S3: tbl_df/tbl/data.frame)
##  $ CUSTOMER_ID         : chr [1:20] "5444343301231244" "5444345304180435" "5444343308234159"
"5444345304261920" ...
##  $ CRM_PRODUCT         : chr [1:20] "28DEGMC" "28DEGMC" "28DEGMC" "28DEGMC" ...
##  $ CRM_PRODUCT_VARIANT : chr [1:20] "" "" "" "" ...
##  $ SEG                 : chr [1:20] "Scheme" "Scheme" "Scheme" "Scheme" ...
##  $ SUBSEG              : chr [1:20] "1.SCH_MORE_OVER_$500" "1.SCH_MORE_OVER_$500" "2.SCH_MORE
_UNDER_$500" "2.SCH_MORE_UNDER_$500" ...
##  $ THRESHOLD           : num [1:20] 6000 6000 3500 3500 2300 2300 1000 1000 3900 1500 ...
##  $ OFFER               : chr [1:20] "150" "150" "100" "100" ...
##  $ CAMPAIGN_ID         : chr [1:20] "SG_CA_857_28DEGMC_TRAVELQ" "SG_CA_857_28DEGMC_TRAVELQ"
"SG_CA_857_28DEGMC_TRAVELQ" "SG_CA_857_28DEGMC_TRAVELQ" ...
##  $ EXPIRY_DATE         : chr [1:20] "2023-07-05" "2023-07-05" "2023-07-05" "2023-07-05" ...
##  $ CAMPAIGN_START_DATE : chr [1:20] "2023-07-04" "2023-07-04" "2023-07-04" "2023-07-04" ...
##  $ CAMPAIGN_END_DATE   : chr [1:20] "2023-09-30" "2023-09-30" "2023-09-30" "2023-09-30" ...
##  $ CONTROL_GROUP       : chr [1:20] "N" "Y" "N" "Y" ...
##  $ OFFER_ACTIVATED_FLAG: chr [1:20] "Y" "N" "Y" "N" ...
##  $ SPEND_QUALIFIED_FLAG: chr [1:20] "N" "N" "N" "N" ...
```

CREATING THE PRODUCTION DATA

```
## 'data.frame':    176158 obs. of  14 variables:
##  $ CUSTOMER_ID         : chr  "5444343309576046" "5444345303959169" "5444343307192119" "54443
45301170280" ...
##  $ CRM_PRODUCT         : chr  "28DEGMC" "28DEGMC" "28DEGMC" "28DEGMC" ...
##  $ CRM_PRODUCT_VARIANT : chr  "" "" "" "" ...
##  $ SEG                 : chr  "Scheme" "Scheme" "Scheme" "Scheme" ...
##  $ SUBSEG              : chr  "1.SCH_MORE_OVER_$500" "1.SCH_MORE_OVER_$500" "1.SCH_MORE_OVER_
$500" "1.SCH_MORE_OVER_$500" ...
##  $ THRESHOLD           : num  4100 2000 3100 2400 6000 3800 2500 6000 4200 2700 ...
##  $ OFFER               : chr  "150" "150" "150" "150" ...
##  $ CAMPAIGN_ID         : chr  "SG_CA_857_28DEGMC_TRAVELQ" "SG_CA_857_28DEGMC_TRAVELQ" "SG_CA_
857_28DEGMC_TRAVELQ" "SG_CA_857_28DEGMC_TRAVELQ" ...
##  $ EXPIRY_DATE         : chr  "2023-07-05" "2023-07-05" "2023-07-05" "2023-07-05" ...
##  $ CAMPAIGN_START_DATE : chr  "2023-07-04" "2023-07-04" "2023-07-04" "2023-07-04" ...
##  $ CAMPAIGN_END_DATE   : chr  "2023-09-30" "2023-09-30" "2023-09-30" "2023-09-30" ...
##  $ CONTROL_GROUP       : chr  "Y" "Y" "Y" "Y" ...
##  $ OFFER_ACTIVATED_FLAG: chr  "" "" "" "" ...
##  $ SPEND_QUALIFIED_FLAG: chr  "" "" "" "" ...
```

```
##   CRM_PRODUCT      n
## 1     28DEGMC 176158
```

```
##   CRM_PRODUCT CONTROL_GROUP      n
## 1     28DEGMC             N 158543
## 2     28DEGMC             Y  17615
```

```
##    CRM_PRODUCT CONTROL_GROUP               SUBSEG     n
## 1     28DEGMC             N  1.SCH_MORE_OVER_$500 28548
## 2     28DEGMC             N 2.SCH_MORE_UNDER_$500 30946
## 3     28DEGMC             N            3.SCH_LESS 41814
## 4     28DEGMC             N         4.SCH_INACTIVE 57235
## 5     28DEGMC             Y  1.SCH_MORE_OVER_$500  3172
## 6     28DEGMC             Y 2.SCH_MORE_UNDER_$500  3438
## 7     28DEGMC             Y            3.SCH_LESS  4646
## 8     28DEGMC             Y         4.SCH_INACTIVE  6359
```

```
## [1] 1000 6000
```

```
## No duplicate combinations found of: CUSTOMER_ID
```

```
##   n
## 1 0
```

Transfering the PET back to snowflake