> #set workking direactory

> setwd("D:/Analytics/R/Dataset")

> #get working direactory

> getwd()

[1] "D:/Analytics/R/Dataset"

>

>

> #read CardioGoodFitness file into myData

> myData <- read.csv("CardioGoodFitness.csv")

>

|  |
| --- |
| > #Tabular representation of CardioGoodFitness  > View(myData)  > #dimensions of CardioGoodFitness  > dim(myData)  [1] 180 9  > #Discriptive analysis of CardioGoodFitness  > summary(myData)  Product Age Gender Education MaritalStatus Usage  TM195:80 Min. :18.00 Female: 76 Min. :12.00 Partnered:107 Min. :2.000  TM498:60 1st Qu.:24.00 Male :104 1st Qu.:14.00 Single : 73 1st Qu.:3.000  TM798:40 Median :26.00 Median :16.00 Median :3.000  Mean :28.79 Mean :15.57 Mean :3.456  3rd Qu.:33.00 3rd Qu.:16.00 3rd Qu.:4.000  Max. :50.00 Max. :21.00 Max. :7.000  Fitness Income Miles  Min. :1.000 Min. : 29562 Min. : 21.0  1st Qu.:3.000 1st Qu.: 44059 1st Qu.: 66.0  Median :3.000 Median : 50597 Median : 94.0  Mean :3.311 Mean : 53720 Mean :103.2  3rd Qu.:4.000 3rd Qu.: 58668 3rd Qu.:114.8  Max. :5.000 Max. :104581 Max. :360.0  > #Gives brief about CardioGoodFitness  > str(myData)  'data.frame': 180 obs. of 9 variables:  $ Product : Factor w/ 3 levels "TM195","TM498",..: 1 1 1 1 1 1 1 1 1 1 ...  $ Age : int 18 19 19 19 20 20 21 21 21 21 ...  $ Gender : Factor w/ 2 levels "Female","Male": 2 2 1 2 2 1 1 2 2 1 ...  $ Education : int 14 15 14 12 13 14 14 13 15 15 ...  $ MaritalStatus: Factor w/ 2 levels "Partnered","Single": 2 2 1 2 1 1 1 2 2 1 ...  $ Usage : int 3 2 4 3 4 3 3 3 5 2 ...  $ Fitness : int 4 3 3 3 2 3 3 3 4 3 ...  $ Income : int 29562 31836 30699 32973 35247 32973 35247 32973 35247 37521 ...  $ Miles : int 112 75 66 85 47 66 75 85 141 85 ...  >  > #read individual column data into variables  >  > product <- myData$Product ##read products  > product ##diplay product  [1] TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195  [16] TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195  [31] TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195  [46] TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195  [61] TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195 TM195  [76] TM195 TM195 TM195 TM195 TM195 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498  [91] TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498  [106] TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498  [121] TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498 TM498  [136] TM498 TM498 TM498 TM498 TM498 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798  [151] TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798  [166] TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798 TM798  Levels: TM195 TM498 TM798  > summary(product) ##counts of individual product usage  TM195 TM498 TM798  80 60 40  >  > age <- myData$Age ##read age  > age ##diplay age  [1] 18 19 19 19 20 20 21 21 21 21 22 22 22 22 23 23 23 23 23 23 23 23 24 24 24 24 24 25 25 25 25  [32] 25 25 25 26 26 26 26 26 26 26 27 27 27 28 28 28 28 28 28 29 29 29 30 30 31 31 32 32 33 33 34  [63] 34 35 35 35 36 37 38 38 38 38 39 40 41 43 44 46 47 50 19 20 20 20 21 21 21 23 23 23 23 23 23  [94] 23 24 24 24 25 25 25 25 25 25 25 25 25 25 25 26 26 26 27 29 30 30 31 31 31 32 32 33 33 33 33  [125] 33 34 34 34 35 35 35 35 37 38 38 40 40 40 45 48 22 22 22 23 23 23 24 24 24 24 25 25 25 25 25  [156] 25 25 26 26 27 27 27 28 28 28 29 29 30 30 30 31 33 34 35 38 40 42 45 47 48  > table(age) ##Number of people in different age groups  age  18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 50  1 4 5 7 7 18 12 25 12 7 9 6 7 6 4 8 6 8 1 2 7 1 5 1 1 1 1 2 1 2 2 1  > summary(age) ##descriptive analytics of age  Min. 1st Qu. Median Mean 3rd Qu. Max.  18.00 24.00 26.00 28.79 33.00 50.00  >  > gender <- myData$Gender ##read products  > gender ##diplay product  [1] Male Male Female Male Male Female Female Male Male Female Male Female Female  [14] Female Male Male Female Male Female Female Male Male Female Female Male Male  [27] Female Female Male Female Female Male Female Male Female Female Male Male Female  [40] Male Male Female Male Female Female Female Male Female Male Female Male Female  [53] Female Male Male Male Female Female Male Female Female Male Female Male Female  [66] Female Male Female Male Female Male Male Male Male Male Male Female Female  [79] Male Female Male Male Female Male Female Male Male Male Male Female Male  [92] Female Female Male Female Male Female Female Female Male Female Male Female Male  [105] Male Male Female Male Female Female Male Male Female Female Female Male Female  [118] Female Male Male Male Female Male Female Female Female Male Male Female Male  [131] Female Male Female Female Male Female Female Male Male Male Male Male Male  [144] Male Female Male Male Male Female Male Male Male Female Male Male Male  [157] Male Female Male Male Male Male Female Male Male Male Male Female Male  [170] Male Male Female Male Male Male Male Male Male Male Male  Levels: Female Male  > summary(gender) ##counts of individual product usage  Female Male  76 104  >  > education <- myData$Education ##read Education  > education ##diplay Education  [1] 14 15 14 12 13 14 14 13 15 15 14 14 16 14 16 16 14 16 16 15 14 16 16 16 14 13 16 14 14 14 14  [32] 16 16 16 14 16 16 16 16 16 16 14 16 14 14 16 14 14 14 16 18 14 16 14 14 14 14 14 14 16 16 16  [63] 16 16 16 18 12 16 16 14 14 16 16 16 16 16 16 16 16 16 14 14 14 14 14 16 12 14 14 16 16 16 14  [94] 16 14 14 16 14 14 16 14 14 14 14 14 16 14 14 16 16 16 14 14 14 13 16 16 18 16 16 13 16 16 16  [125] 18 16 16 15 14 16 16 16 16 16 16 16 16 16 16 16 14 16 18 16 18 16 16 18 16 16 16 16 18 18 18  [156] 18 20 21 16 16 18 21 18 18 18 18 14 16 18 18 16 18 16 16 18 21 18 16 18 18  > table(education) ##Number of people in each education level  education  12 13 14 15 16 18 20 21  3 5 55 5 85 23 1 3  > summary(education) ##descriptive analytics of education  Min. 1st Qu. Median Mean 3rd Qu. Max.  12.00 14.00 16.00 15.57 16.00 21.00  >  > maritalStatus <- myData$MaritalStatus ##read MaritalStatus  > maritalStatus ##diplay MaritalStatus  [1] Single Single Partnered Single Partnered Partnered Partnered Single Single  [10] Partnered Single Partnered Single Single Partnered Partnered Single Partnered  [19] Single Partnered Single Single Single Partnered Single Partnered Single  [28] Partnered Partnered Partnered Partnered Single Partnered Single Partnered Partnered  [37] Partnered Partnered Single Partnered Single Partnered Single Partnered Partnered  [46] Partnered Single Partnered Single Partnered Partnered Partnered Partnered Partnered  [55] Single Partnered Single Single Partnered Single Partnered Single Single  [64] Partnered Partnered Single Single Partnered Partnered Partnered Single Partnered  [73] Partnered Partnered Partnered Partnered Single Partnered Partnered Partnered Single  [82] Single Partnered Single Partnered Partnered Partnered Partnered Partnered Single  [91] Partnered Partnered Single Partnered Single Single Single Partnered Single  [100] Partnered Partnered Single Single Partnered Partnered Partnered Single Single  [109] Partnered Single Single Single Partnered Single Single Partnered Partnered  [118] Single Single Partnered Partnered Partnered Partnered Partnered Single Partnered  [127] Partnered Single Partnered Partnered Single Partnered Partnered Partnered Partnered  [136] Partnered Single Partnered Partnered Partnered Single Single Single Single  [145] Single Single Single Partnered Single Single Partnered Partnered Partnered  [154] Partnered Partnered Partnered Partnered Single Partnered Partnered Single Partnered  [163] Partnered Partnered Single Single Partnered Partnered Partnered Partnered Partnered  [172] Partnered Single Partnered Partnered Single Single Single Partnered Partnered  Levels: Partnered Single  > table(maritalStatus) ##Number of people married and single  maritalStatus  Partnered Single  107 73  > summary(maritalStatus) ##count of partnered or single  Partnered Single  107 73  >  > usage <- myData$Usage ##read Usage  > usage ##diplay Usage  [1] 3 2 4 3 4 3 3 3 5 2 3 3 4 3 3 3 2 4 4 2 4 4 4 5 2 3 4 3 2 2 3 3 2 3 3 4 2 3 3 4 3 3 4 2 2 2 3  [48] 3 4 3 3 2 4 4 3 2 2 3 4 2 3 4 2 4 3 3 4 3 3 2 2 3 4 3 4 3 3 3 4 3 3 2 3 3 5 2 2 3 3 3 4 3 3 3  [95] 3 3 3 2 3 2 5 3 2 4 3 2 2 4 4 4 4 4 3 3 4 3 2 2 4 3 4 2 3 5 3 4 3 3 3 3 3 3 2 4 3 3 3 3 2 2 4  [142] 3 4 4 5 4 4 4 5 5 4 4 5 4 6 6 4 4 5 4 4 4 6 7 6 5 7 6 5 5 6 4 5 4 5 6 5 5 4 4  > table(usage) ##Number of people at different usages levels  usage  2 3 4 5 6 7  33 69 52 17 7 2  > summary(usage) ##descriptive analytics of usage levels  Min. 1st Qu. Median Mean 3rd Qu. Max.  2.000 3.000 3.000 3.456 4.000 7.000  >  > fitness <- myData$Fitness ##read fitness  > fitness ##diplay fitness  [1] 4 3 3 3 2 3 3 3 4 3 3 2 3 3 1 3 3 3 3 2 3 3 3 5 3 2 3 3 3 2 3 4 2 3 4 3 2 3 3 4 3 2 3 3 3 3 3  [48] 3 3 3 3 2 3 4 3 2 2 4 3 2 3 5 2 3 3 3 3 3 3 3 3 3 4 3 3 3 4 2 3 3 3 3 3 3 4 2 2 3 3 3 3 2 2 3  [95] 2 4 3 3 4 2 3 3 3 3 4 3 2 3 3 4 3 2 3 3 3 3 3 1 3 3 4 3 3 3 4 3 4 3 2 2 2 3 3 3 3 3 3 3 2 3 3  [142] 5 5 5 4 5 5 5 5 5 5 4 5 3 4 5 5 3 4 5 3 4 5 5 5 5 5 5 4 5 5 5 5 5 5 5 4 5 5 5  > table(fitness) ##Number of people in various fitness levels  fitness  1 2 3 4 5  2 26 97 24 31  > summary(fitness) ##descriptive analytics of fitness levels  Min. 1st Qu. Median Mean 3rd Qu. Max.  1.000 3.000 3.000 3.311 4.000 5.000  >  > income <- myData$Income ##read income  > income ##diplay income  [1] 29562 31836 30699 32973 35247 32973 35247 32973 35247 37521 36384 35247 36384  [14] 35247 38658 40932 34110 39795 38658 34110 38658 40932 42069 44343 45480 42069  [27] 46617 48891 45480 53439 39795 40932 40932 43206 44343 52302 53439 51165 36384  [40] 44343 50028 45480 54576 45480 46617 52302 52302 54576 54576 51165 68220 46617  [53] 50028 46617 54576 54576 45480 46617 52302 55713 46617 51165 52302 48891 60261  [66] 67083 44343 37521 46617 54576 52302 56850 59124 61398 54576 53439 57987 60261  [79] 56850 64809 31836 32973 34110 38658 34110 34110 32973 36384 38658 45480 45480  [92] 43206 40932 45480 40932 48891 50028 45480 43206 52302 47754 45480 43206 45480  [105] 43206 50028 45480 48891 45480 50028 51165 45480 51165 57987 46617 52302 51165  [118] 65220 60261 53439 53439 50028 51165 53439 47754 64809 59124 67083 52302 53439  [131] 50028 53439 48891 62535 59124 61398 57987 64809 54576 57987 48658 54781 48556  [144] 58516 53536 48556 61006 57271 52291 49801 49801 62251 61006 64741 70966 75946  [157] 74701 69721 64741 83416 88396 90886 92131 77191 88396 52290 85906 90886 103336  [170] 99601 89641 95866 92131 92131 104581 83416 89641 90886 104581 95508  > summary(income) ##descriptive analytics of income  Min. 1st Qu. Median Mean 3rd Qu. Max.  29562 44059 50597 53720 58668 104581  >  > miles <- myData$Miles ##read miles  > miles ##diplay miles  [1] 112 75 66 85 47 66 75 85 141 85 85 66 75 75 47 75 103 94 113 38 113 94 94  [24] 188 113 47 75 75 56 47 85 113 47 85 113 113 47 85 66 132 85 66 85 56 56 66  [47] 103 94 113 56 85 38 94 141 85 47 47 113 85 38 85 169 66 85 94 85 94 85 75  [70] 56 56 75 132 66 103 66 75 47 94 66 64 53 106 95 212 42 53 95 85 95 127 74  [93] 53 64 85 106 106 85 127 42 106 95 64 170 106 53 42 127 85 127 106 53 95 74 106  [116] 95 64 21 127 95 170 85 95 95 74 95 85 85 53 53 64 95 85 85 106 85 85 95  [139] 42 64 106 120 200 140 100 100 100 80 200 160 120 160 200 100 180 240 170 100 180 160 100  [162] 100 180 180 150 180 300 280 160 150 260 200 150 360 150 200 200 160 120 180  > summary(miles) ##descriptive analytics of miles  Min. 1st Qu. Median Mean 3rd Qu. Max.  21.0 66.0 94.0 103.2 114.8 360.0  > table(miles)  miles  21 38 42 47 53 56 64 66 74 75 80 85 94 95 100 103 106 112 113 120 127 132 140 141 150  1 3 4 9 7 6 6 10 3 10 1 27 8 12 7 3 9 1 8 3 5 2 1 2 4  160 169 170 180 188 200 212 240 260 280 300 360  5 1 3 6 1 6 1 1 1 1 1 1 |
|  |
| |  | | --- | | > | |

|  |
| --- |
| > #description by graphs  > par(mfrow = c(3,3))  Warning messages:  1: In doTryCatch(return(expr), name, parentenv, handler) :  graphical parameter "type" is obsolete  2: In doTryCatch(return(expr), name, parentenv, handler) :  graphical parameter "type" is obsolete  3: In doTryCatch(return(expr), name, parentenv, handler) :  graphical parameter "type" is obsolete  4: In doTryCatch(return(expr), name, parentenv, handler) :  graphical parameter "type" is obsolete  5: In doTryCatch(return(expr), name, parentenv, handler) :  graphical parameter "type" is obsolete  6: In doTryCatch(return(expr), name, parentenv, handler) :  graphical parameter "type" is obsolete  >  > ##No of people using different products  > ###Usage decreses uniformly from product 1 to 3  > plot(product,main = 'Product usage',xlab = 'product', ylab = 'Number of users',col = 'blue')  >  > ##Heat distribution of users in various age groups  > ###Eventhough the age varies from 18 to 50 , more users are young(25 to 30 years) which is intensified in the plot  > hist(age,main = 'Age distribution',xlab = 'Age', ylab = 'Number of users',col = heat.colors(23))  >  > ##Box plot of education distribution of users  > ###Most of the people are in the range 14 to 16 and median shown as black line is 16  > boxplot(education,main = 'Education level of users',xlab = 'Education', ylab = 'Number of users',  + col = 'red')  >  > ##male and female users distribution  > ###no of male users> female users  > plot(gender,main = 'Number of male and female user',xlab = 'Gender', ylab = 'Number of users',col = 'yellow')  > labels<- c("Female","Male")  > #pie(summary(gender),labels,main = "Users gender distribution")  >  > ##married and single users distribution  > ###no of partnered users more than single users  > plot(maritalStatus,main = 'Marital status',xlab = 'Married/Single', ylab = 'Number of users',col = 'green')  >  > ##Usage distribution  > barplot(usage,type = 'line',col = 'red',xlab = 'No of users',ylab = 'usage level',main = 'Usage plot')  Warning messages:  1: In plot.window(xlim, ylim, log = log, ...) :  graphical parameter "type" is obsolete  2: In title(main = main, sub = sub, xlab = xlab, ylab = ylab, ...) :  graphical parameter "type" is obsolete  3: In axis(if (horiz) 1 else 2, cex.axis = cex.axis, ...) :  graphical parameter "type" is obsolete  >  > ##user fitness levels  > ###eventhough fitness levels varies from 1 to 5, most users fall in level3  > hist(fitness,main = 'Fitness levels of users',xlab = 'Fitness levels', ylab = 'Number of users',col = 'black')  >  > ##Income distribution of users  > ###Plot shows min,max, 25 percent and 75 percent and median  > boxplot(income,main = 'Income levels of users', ylab = 'Income in 1000',col = 'orange')  >  > ##miles ran by each user  > ###plot shows miles ran by user where avg lies around 100 miles  > hist(miles,main = 'Miles ran',xlab = 'Miles', ylab = 'Number of users',col = topo.colors(10)) |
|  |
| |  | | --- | | > | |

|  |
| --- |
| > #Data of users using product TM195  > TM195 <- myData[myData$Product == "TM195",]  Warning messages:  1: In doTryCatch(return(expr), name, parentenv, handler) :  graphical parameter "type" is obsolete  2: In doTryCatch(return(expr), name, parentenv, handler) :  graphical parameter "type" is obsolete  3: In doTryCatch(return(expr), name, parentenv, handler) :  graphical parameter "type" is obsolete  4: In doTryCatch(return(expr), name, parentenv, handler) :  graphical parameter "type" is obsolete  5: In doTryCatch(return(expr), name, parentenv, handler) :  graphical parameter "type" is obsolete  6: In doTryCatch(return(expr), name, parentenv, handler) :  graphical parameter "type" is obsolete  > TM195 ##display TM195  Product Age Gender Education MaritalStatus Usage Fitness Income Miles  1 TM195 18 Male 14 Single 3 4 29562 112  2 TM195 19 Male 15 Single 2 3 31836 75  3 TM195 19 Female 14 Partnered 4 3 30699 66  4 TM195 19 Male 12 Single 3 3 32973 85  5 TM195 20 Male 13 Partnered 4 2 35247 47  6 TM195 20 Female 14 Partnered 3 3 32973 66  7 TM195 21 Female 14 Partnered 3 3 35247 75  8 TM195 21 Male 13 Single 3 3 32973 85  9 TM195 21 Male 15 Single 5 4 35247 141  10 TM195 21 Female 15 Partnered 2 3 37521 85  11 TM195 22 Male 14 Single 3 3 36384 85  12 TM195 22 Female 14 Partnered 3 2 35247 66  13 TM195 22 Female 16 Single 4 3 36384 75  14 TM195 22 Female 14 Single 3 3 35247 75  15 TM195 23 Male 16 Partnered 3 1 38658 47  16 TM195 23 Male 16 Partnered 3 3 40932 75  17 TM195 23 Female 14 Single 2 3 34110 103  18 TM195 23 Male 16 Partnered 4 3 39795 94  19 TM195 23 Female 16 Single 4 3 38658 113  20 TM195 23 Female 15 Partnered 2 2 34110 38  21 TM195 23 Male 14 Single 4 3 38658 113  22 TM195 23 Male 16 Single 4 3 40932 94  23 TM195 24 Female 16 Single 4 3 42069 94  24 TM195 24 Female 16 Partnered 5 5 44343 188  25 TM195 24 Male 14 Single 2 3 45480 113  26 TM195 24 Male 13 Partnered 3 2 42069 47  27 TM195 24 Female 16 Single 4 3 46617 75  28 TM195 25 Female 14 Partnered 3 3 48891 75  29 TM195 25 Male 14 Partnered 2 3 45480 56  30 TM195 25 Female 14 Partnered 2 2 53439 47  31 TM195 25 Female 14 Partnered 3 3 39795 85  32 TM195 25 Male 16 Single 3 4 40932 113  33 TM195 25 Female 16 Partnered 2 2 40932 47  34 TM195 25 Male 16 Single 3 3 43206 85  35 TM195 26 Female 14 Partnered 3 4 44343 113  36 TM195 26 Female 16 Partnered 4 3 52302 113  37 TM195 26 Male 16 Partnered 2 2 53439 47  38 TM195 26 Male 16 Partnered 3 3 51165 85  39 TM195 26 Female 16 Single 3 3 36384 66  40 TM195 26 Male 16 Partnered 4 4 44343 132  41 TM195 26 Male 16 Single 3 3 50028 85  42 TM195 27 Female 14 Partnered 3 2 45480 66  43 TM195 27 Male 16 Single 4 3 54576 85  44 TM195 27 Female 14 Partnered 2 3 45480 56  45 TM195 28 Female 14 Partnered 2 3 46617 56  46 TM195 28 Female 16 Partnered 2 3 52302 66  47 TM195 28 Male 14 Single 3 3 52302 103  48 TM195 28 Female 14 Partnered 3 3 54576 94  49 TM195 28 Male 14 Single 4 3 54576 113  50 TM195 28 Female 16 Partnered 3 3 51165 56  51 TM195 29 Male 18 Partnered 3 3 68220 85  52 TM195 29 Female 14 Partnered 2 2 46617 38  53 TM195 29 Female 16 Partnered 4 3 50028 94  54 TM195 30 Male 14 Partnered 4 4 46617 141  55 TM195 30 Male 14 Single 3 3 54576 85  56 TM195 31 Male 14 Partnered 2 2 54576 47  57 TM195 31 Female 14 Single 2 2 45480 47  58 TM195 32 Female 14 Single 3 4 46617 113  59 TM195 32 Male 14 Partnered 4 3 52302 85  60 TM195 33 Female 16 Single 2 2 55713 38  61 TM195 33 Female 16 Partnered 3 3 46617 85  62 TM195 34 Male 16 Single 4 5 51165 169  63 TM195 34 Female 16 Single 2 2 52302 66  64 TM195 35 Male 16 Partnered 4 3 48891 85  65 TM195 35 Female 16 Partnered 3 3 60261 94  66 TM195 35 Female 18 Single 3 3 67083 85  67 TM195 36 Male 12 Single 4 3 44343 94  68 TM195 37 Female 16 Partnered 3 3 37521 85  69 TM195 38 Male 16 Partnered 3 3 46617 75  70 TM195 38 Female 14 Partnered 2 3 54576 56  71 TM195 38 Male 14 Single 2 3 52302 56  72 TM195 38 Male 16 Partnered 3 3 56850 75  73 TM195 39 Male 16 Partnered 4 4 59124 132  74 TM195 40 Male 16 Partnered 3 3 61398 66  75 TM195 41 Male 16 Partnered 4 3 54576 103  76 TM195 43 Male 16 Partnered 3 3 53439 66  77 TM195 44 Female 16 Single 3 4 57987 75  78 TM195 46 Female 16 Partnered 3 2 60261 47  79 TM195 47 Male 16 Partnered 4 3 56850 94  80 TM195 50 Female 16 Partnered 3 3 64809 66  > summary(TM195) ##summary of TM195 usage  Product Age Gender Education MaritalStatus Usage  TM195:80 Min. :18.00 Female:40 Min. :12.00 Partnered:48 Min. :2.000  TM498: 0 1st Qu.:23.00 Male :40 1st Qu.:14.00 Single :32 1st Qu.:3.000  TM798: 0 Median :26.00 Median :16.00 Median :3.000  Mean :28.55 Mean :15.04 Mean :3.087  3rd Qu.:33.00 3rd Qu.:16.00 3rd Qu.:4.000  Max. :50.00 Max. :18.00 Max. :5.000  Fitness Income Miles  Min. :1.000 Min. :29562 Min. : 38.00  1st Qu.:3.000 1st Qu.:38658 1st Qu.: 66.00  Median :3.000 Median :46617 Median : 85.00  Mean :2.962 Mean :46418 Mean : 82.79  3rd Qu.:3.000 3rd Qu.:53439 3rd Qu.: 94.00  Max. :5.000 Max. :68220 Max. :188.00  >  > par(mfrow = c(1,3))  >  > ##Gives relation between age and usage for users of TM195  > plot(TM195$Age,TM195$Usage,col = "blue",main = "Age vs Usage comparision",  + abline(lm(TM195$Age~TM195$Usage)),cex = 1.3,pch = 16,xlab = "Age",ylab = "Usage")  > ##More number of users in age>20 and age<30 fall in usage level 3 . Also in this age range , usage level 2 and 4 are nearly evenly distributed  >  > ##Gives relation between gender and usage for users of TM195  > plot(TM195$Gender,TM195$Usage,col = "blue",main = "Gender vs Usage comparision",  + abline(lm(TM195$Gender~TM195$Usage)),cex = 1.3,pch = 16,xlab = "Gender",ylab = "Usage")  > ##All females usage lies in level 2 to 3 and male usage lies between 3 to 4 both boundaries inclusive  >  > ##Gives relation between usage and fitness for users of TM195  > plot(TM195$Usage,TM195$Fitness,col = "red",main = "Usage vs Fitness comparision",  + abline(lm(TM195$Usage~TM195$Fitness)),cex = 1.3,pch = 16,xlab = "Usage",ylab = "Fitness")  > ##High fitness levels are obtained with high usage and mid usage level has nealy all type of fitness level  >  >  >  > #Data where product is TM498  > TM498 <- myData[myData$Product == "TM498",]  > TM498 ##display TM498  Product Age Gender Education MaritalStatus Usage Fitness Income Miles  81 TM498 19 Male 14 Single 3 3 31836 64  82 TM498 20 Male 14 Single 2 3 32973 53  83 TM498 20 Female 14 Partnered 3 3 34110 106  84 TM498 20 Male 14 Single 3 3 38658 95  85 TM498 21 Female 14 Partnered 5 4 34110 212  86 TM498 21 Male 16 Partnered 2 2 34110 42  87 TM498 21 Male 12 Partnered 2 2 32973 53  88 TM498 23 Male 14 Partnered 3 3 36384 95  89 TM498 23 Male 14 Partnered 3 3 38658 85  90 TM498 23 Female 16 Single 3 3 45480 95  91 TM498 23 Male 16 Partnered 4 3 45480 127  92 TM498 23 Female 16 Partnered 3 2 43206 74  93 TM498 23 Female 14 Single 3 2 40932 53  94 TM498 23 Male 16 Partnered 3 3 45480 64  95 TM498 24 Female 14 Single 3 2 40932 85  96 TM498 24 Male 14 Single 3 4 48891 106  97 TM498 24 Female 16 Single 3 3 50028 106  98 TM498 25 Female 14 Partnered 2 3 45480 85  99 TM498 25 Female 14 Single 3 4 43206 127  100 TM498 25 Male 16 Partnered 2 2 52302 42  101 TM498 25 Female 14 Partnered 5 3 47754 106  102 TM498 25 Male 14 Single 3 3 45480 95  103 TM498 25 Female 14 Single 2 3 43206 64  104 TM498 25 Male 14 Partnered 4 3 45480 170  105 TM498 25 Male 14 Partnered 3 4 43206 106  106 TM498 25 Male 16 Partnered 2 3 50028 53  107 TM498 25 Female 14 Single 2 2 45480 42  108 TM498 25 Male 14 Single 4 3 48891 127  109 TM498 26 Female 16 Partnered 4 3 45480 85  110 TM498 26 Female 16 Single 4 4 50028 127  111 TM498 26 Male 16 Single 4 3 51165 106  112 TM498 27 Male 14 Single 4 2 45480 53  113 TM498 29 Female 14 Partnered 3 3 51165 95  114 TM498 30 Female 14 Single 3 3 57987 74  115 TM498 30 Female 13 Single 4 3 46617 106  116 TM498 31 Male 16 Partnered 3 3 52302 95  117 TM498 31 Female 16 Partnered 2 3 51165 64  118 TM498 31 Female 18 Single 2 1 65220 21  119 TM498 32 Male 16 Single 4 3 60261 127  120 TM498 32 Male 16 Partnered 3 3 53439 95  121 TM498 33 Male 13 Partnered 4 4 53439 170  122 TM498 33 Female 16 Partnered 2 3 50028 85  123 TM498 33 Male 16 Partnered 3 3 51165 95  124 TM498 33 Female 16 Partnered 5 3 53439 95  125 TM498 33 Female 18 Single 3 4 47754 74  126 TM498 34 Female 16 Partnered 4 3 64809 95  127 TM498 34 Male 16 Partnered 3 4 59124 85  128 TM498 34 Male 15 Single 3 3 67083 85  129 TM498 35 Female 14 Partnered 3 2 52302 53  130 TM498 35 Male 16 Partnered 3 2 53439 53  131 TM498 35 Female 16 Single 3 2 50028 64  132 TM498 35 Male 16 Partnered 3 3 53439 95  133 TM498 37 Female 16 Partnered 2 3 48891 85  134 TM498 38 Female 16 Partnered 4 3 62535 85  135 TM498 38 Male 16 Partnered 3 3 59124 106  136 TM498 40 Female 16 Partnered 3 3 61398 85  137 TM498 40 Female 16 Single 3 3 57987 85  138 TM498 40 Male 16 Partnered 3 3 64809 95  139 TM498 45 Male 16 Partnered 2 2 54576 42  140 TM498 48 Male 16 Partnered 2 3 57987 64  > summary(TM498) ##summary of TM498 usage  Product Age Gender Education MaritalStatus Usage  TM195: 0 Min. :19.00 Female:29 Min. :12.00 Partnered:36 Min. :2.000  TM498:60 1st Qu.:24.00 Male :31 1st Qu.:14.00 Single :24 1st Qu.:3.000  TM798: 0 Median :26.00 Median :16.00 Median :3.000  Mean :28.90 Mean :15.12 Mean :3.067  3rd Qu.:33.25 3rd Qu.:16.00 3rd Qu.:3.250  Max. :48.00 Max. :18.00 Max. :5.000  Fitness Income Miles  Min. :1.0 Min. :31836 Min. : 21.00  1st Qu.:3.0 1st Qu.:44912 1st Qu.: 64.00  Median :3.0 Median :49460 Median : 85.00  Mean :2.9 Mean :48974 Mean : 87.93  3rd Qu.:3.0 3rd Qu.:53439 3rd Qu.:106.00  Max. :4.0 Max. :67083 Max. :212.00  >  > par(mfrow = c(1,3))  >  > ##Gives relation between age and usage for users of TM498  > plot(TM498$Age,TM498$Usage,col = "blue",main = "Age vs Usage comparision",  + abline(lm(TM498$Age~TM498$Usage)),cex = 1.3,pch = 16,xlab = "Age",ylab = "Usage")  > ##More number of users are in age>25 and age<35 category where usage level is also more (3 and 4 ) Also in this age range , usage level 2 and 4 are nearly evenly distributed  >  > ##Gives relation between gender and usage for users of TM498  > plot(TM498$Gender,TM498$Usage,col = "blue",main = "Gender vs Usage comparision",  + abline(lm(TM498$Gender~TM498$Usage)),cex = 1.3,pch = 16,xlab = "Gender",ylab = "Usage")  > ##All median and ditribution of usage level of male users of this product is around level 3 and female usage level is between 3 to 4  >  > ##Gives relation between usage and fitness for users of TM498  > plot(TM498$Usage,TM498$Fitness,col = "red",main = "Usage vs Fitness comparision",  + abline(lm(TM498$Usage~TM498$Fitness)),cex = 1.3,pch = 16,xlab = "Usage",ylab = "Fitness")  > ##All level usage users are distributed across fitness level 2 to 4 with more people around level 3  >  >  >  >  >  >  > #Data where product is TM798  > TM798 <- myData[myData$Product == "TM798",]  > TM798 ##display TM798  Product Age Gender Education MaritalStatus Usage Fitness Income Miles  141 TM798 22 Male 14 Single 4 3 48658 106  142 TM798 22 Male 16 Single 3 5 54781 120  143 TM798 22 Male 18 Single 4 5 48556 200  144 TM798 23 Male 16 Single 4 5 58516 140  145 TM798 23 Female 18 Single 5 4 53536 100  146 TM798 23 Male 16 Single 4 5 48556 100  147 TM798 24 Male 16 Single 4 5 61006 100  148 TM798 24 Male 18 Partnered 4 5 57271 80  149 TM798 24 Female 16 Single 5 5 52291 200  150 TM798 24 Male 16 Single 5 5 49801 160  151 TM798 25 Male 16 Partnered 4 5 49801 120  152 TM798 25 Male 16 Partnered 4 4 62251 160  153 TM798 25 Female 18 Partnered 5 5 61006 200  154 TM798 25 Male 18 Partnered 4 3 64741 100  155 TM798 25 Male 18 Partnered 6 4 70966 180  156 TM798 25 Male 18 Partnered 6 5 75946 240  157 TM798 25 Male 20 Partnered 4 5 74701 170  158 TM798 26 Female 21 Single 4 3 69721 100  159 TM798 26 Male 16 Partnered 5 4 64741 180  160 TM798 27 Male 16 Partnered 4 5 83416 160  161 TM798 27 Male 18 Single 4 3 88396 100  162 TM798 27 Male 21 Partnered 4 4 90886 100  163 TM798 28 Female 18 Partnered 6 5 92131 180  164 TM798 28 Male 18 Partnered 7 5 77191 180  165 TM798 28 Male 18 Single 6 5 88396 150  166 TM798 29 Male 18 Single 5 5 52290 180  167 TM798 29 Male 14 Partnered 7 5 85906 300  168 TM798 30 Female 16 Partnered 6 5 90886 280  169 TM798 30 Male 18 Partnered 5 4 103336 160  170 TM798 30 Male 18 Partnered 5 5 99601 150  171 TM798 31 Male 16 Partnered 6 5 89641 260  172 TM798 33 Female 18 Partnered 4 5 95866 200  173 TM798 34 Male 16 Single 5 5 92131 150  174 TM798 35 Male 16 Partnered 4 5 92131 360  175 TM798 38 Male 18 Partnered 5 5 104581 150  176 TM798 40 Male 21 Single 6 5 83416 200  177 TM798 42 Male 18 Single 5 4 89641 200  178 TM798 45 Male 16 Single 5 5 90886 160  179 TM798 47 Male 18 Partnered 4 5 104581 120  180 TM798 48 Male 18 Partnered 4 5 95508 180  > summary(TM798) ##summary of TM798 usage  Product Age Gender Education MaritalStatus Usage  TM195: 0 Min. :22.00 Female: 7 Min. :14.00 Partnered:23 Min. :3.000  TM498: 0 1st Qu.:24.75 Male :33 1st Qu.:16.00 Single :17 1st Qu.:4.000  TM798:40 Median :27.00 Median :18.00 Median :5.000  Mean :29.10 Mean :17.32 Mean :4.775  3rd Qu.:30.25 3rd Qu.:18.00 3rd Qu.:5.000  Max. :48.00 Max. :21.00 Max. :7.000  Fitness Income Miles  Min. :3.000 Min. : 48556 Min. : 80.0  1st Qu.:4.000 1st Qu.: 58205 1st Qu.:120.0  Median :5.000 Median : 76569 Median :160.0  Mean :4.625 Mean : 75442 Mean :166.9  3rd Qu.:5.000 3rd Qu.: 90886 3rd Qu.:200.0  Max. :5.000 Max. :104581 Max. :360.0  >  > par(mfrow = c(1,3))  >  > ##Gives relation between age and usage for users of TM798  > plot(TM798$Age,TM798$Usage,col = "blue",main = "Age vs Usage comparision",  + abline(lm(TM798$Age~TM798$Usage)),cex = 1.3,pch = 16,xlab = "Age",ylab = "Usage")  > ##More number of users are in age>20 and age<35 category where usage level is symetrically distributed with top users of lv7 around age 28 . Users above 35 use lv3 and lv4 usage of this product  >  > ##Gives relation between gender and usage for users of TM798  > plot(TM798$Gender,TM798$Usage,col = "blue",main = "Gender vs Usage comparision",  + abline(lm(TM798$Gender~TM798$Usage)),cex = 1.3,pch = 16,xlab = "Gender",ylab = "Usage")  > ##Female users avg usage is around lv5 distributed majorly between 4.5 to 5.5 where as male users lie between usage lv 4 to 5 with most of them at lv4  >  > ##Gives relation between usage and fitness for users of TM798  > plot(TM798$Usage,TM798$Fitness,col = "red",main = "Usage vs Fitness comparision",  + abline(lm(TM798$Usage~TM798$Fitness)),cex = 1.3,pch = 16,xlab = "Usage",ylab = "Fitness")  > ##Majority of the users are fully fit with usage in between 4 to 6 |
|  |
| |  | | --- | | > | |

|  |
| --- |
| > NumberofusersTM195 <- c(1:80)  > NumberofusersTM498 <- c(1:60)  > NumberofusersTM798 <- c(1:40)  >  > par(mfrow = c(1,3)) #plot of 1 X 3  >  > ##Comaprision of Usage,fitness and Education levels of TM195 users  > boxplot(NumberofusersTM195,TM195$Education,type="o", col="blue", pch="o", lty=1, ylim = c(0,18),  + main = 'Usage to fitness and education comparision TM195',ylab = 'Usage,fitness and education')  > points(NumberofusersTM195,TM195$Usage, col="red", pch="\*")  > lines(NumberofusersTM195, TM195$Usage, col="red",lty=2)  > points(NumberofusersTM195,TM195$Fitness, col="black", pch="#")  > lines(NumberofusersTM195, TM195$Fitness, col="black",lty=3)  > ##Usage is less than fitness by one level till a set of people and increases linearly to same end point  >  > ##Comaprision of Usage,fitness and Education levels of TM498 users  > boxplot(NumberofusersTM498,TM498$Education,type="o", col="blue", pch="o", lty=1, ylim = c(0,18),  + main = 'Usage to fitness and education comparision TM498',ylab = 'Usage,fitness and education')  > points(NumberofusersTM498,TM498$Usage, col="red", pch="\*")  > lines(NumberofusersTM498, TM498$Usage, col="red",lty=2)  > points(NumberofusersTM498,TM498$Fitness, col="black", pch="#")  > lines(NumberofusersTM498, TM498$Fitness, col="black",lty=3)  > ##First half of users are more educated than second half where as fitness is nearly constant completely and usage has a drop in second half of users but ends closely  >  > ##Comaprision of Usage,fitness and Education levels of TM798 users  > boxplot(NumberofusersTM798,TM798$Education,type="o", col="blue", pch="o", lty=1, ylim = c(0,18),  + main = 'Usage to fitness and education comparision',ylab = 'Usage,fitness and education')  > points(NumberofusersTM798,TM798$Usage, col="red", pch="\*")  > lines(NumberofusersTM798, TM798$Usage, col="red",lty=2)  > points(NumberofusersTM798,TM798$Fitness, col="black", pch="#")  > lines(NumberofusersTM798, TM798$Fitness, col="black",lty=3)  > ##First half is scattered across level 10 to 15 whereas next half have more less distribution of education levels  > ##First set of people are able to improve fitness with decreasing usage also but second set of people fitness is constant with small scale improving usage  >  >  >  >  > summary(TM195$Fitness)  Min. 1st Qu. Median Mean 3rd Qu. Max.  1.000 3.000 3.000 2.962 3.000 5.000  > summary(TM498$Fitness)  Min. 1st Qu. Median Mean 3rd Qu. Max.  1.0 3.0 3.0 2.9 3.0 4.0  > summary(TM798$Fitness)  Min. 1st Qu. Median Mean 3rd Qu. Max.  3.000 4.000 5.000 4.625 5.000 5.000  > ##More fit people are prefering TM798  >  > summary(TM195$Education)  Min. 1st Qu. Median Mean 3rd Qu. Max.  12.00 14.00 16.00 15.04 16.00 18.00  > summary(TM498$Education)  Min. 1st Qu. Median Mean 3rd Qu. Max.  12.00 14.00 16.00 15.12 16.00 18.00  > summary(TM798$Education)  Min. 1st Qu. Median Mean 3rd Qu. Max.  14.00 16.00 18.00 17.32 18.00 21.00  > ##Highly educated people(16 to 21) prefer TM798  >  > summary(TM195$Gender)  Female Male  40 40  > summary(TM498$Gender)  Female Male  29 31  > summary(TM798$Gender)  Female Male  7 33  > ##TM195 is equally prefered by men and women , TM498 is also nearly equally prefered by men and women but TM798 is mostly prefered by men  >  > summary(TM195$Age)  Min. 1st Qu. Median Mean 3rd Qu. Max.  18.00 23.00 26.00 28.55 33.00 50.00  > summary(TM498$Age)  Min. 1st Qu. Median Mean 3rd Qu. Max.  19.00 24.00 26.00 28.90 33.25 48.00  > summary(TM798$Age)  Min. 1st Qu. Median Mean 3rd Qu. Max.  22.00 24.75 27.00 29.10 30.25 48.00  > ##All three products are nearly prefered by people of same age group (18 to 50) and TM798 has median age slightly more than others to  >  > summary(TM195$MaritalStatus)  Partnered Single  48 32  > summary(TM498$MaritalStatus)  Partnered Single  36 24  > summary(TM798$MaritalStatus)  Partnered Single  23 17  > ##Partnered to singles ratio of users is around 3:2  >  > summary(TM195$Income)  Min. 1st Qu. Median Mean 3rd Qu. Max.  29562 38658 46617 46418 53439 68220  > summary(TM498$Income)  Min. 1st Qu. Median Mean 3rd Qu. Max.  31836 44912 49460 48974 53439 67083  > summary(TM798$Income)  Min. 1st Qu. Median Mean 3rd Qu. Max.  48556 58205 76569 75442 90886 104581  > ##TM195 and TM498 75 percent of users has less than 55k inncome but TM795 has most users whose income is above 55k  >  > summary(TM195$Miles)  Min. 1st Qu. Median Mean 3rd Qu. Max.  38.00 66.00 85.00 82.79 94.00 188.00  > summary(TM498$Miles)  Min. 1st Qu. Median Mean 3rd Qu. Max.  21.00 64.00 85.00 87.93 106.00 212.00  > summary(TM798$Miles)  Min. 1st Qu. Median Mean 3rd Qu. Max.  80.0 120.0 160.0 166.9 200.0 360.0  > ##TM195 and TM498 users run an avg of 85 miles/user but TM798 avg is 160 miles/user with max usage going up till 360 miles. |
|  |
| |  | | --- | | > | |