**1)** Create the vectors ‘x’, ‘y’ and ‘z’, with values shown below in order.

5 10 15 20 25 30

x<-c(5,10,15,20,25,30)

-1 NA 75 3 5 8

y<-c(-1,NA,75,3,5,8)

5

z<-c(5)

**2)** Multiply the first two vectors by the z vector, and store these in new objects. Print these new vectors.

x\*z

[1] 25 50 75 100 125 150

> y\*z

[1] -5 NA 375 15 25 40

> xz<-c(25,50,75,100,125,150)

> yz<-c(-5,NA,375,15,25,40)

> #print new vectors

> print(xz)

[1] 25 50 75 100 125 150

> print(yz)

[1] -5 NA 375 15 25 40

**3)** Replace the missing element of the y vector with the value 2.5, using the ifelse() function and print the vector.

y<-ifelse(is.na(y),(2.5),y)

> print(y)

[1] -1.0 2.5 75.0 3.0 5.0 8.0

**4)** Load the dataset ‘Assignment\_1.csv’ from the github source shown in class. You may import this however you please. If using the online source, the website is: "https://raw.githubusercontent.com/mattdemography/EDU\_7043/master/Data/Assignment\_1.csv"

Answer the following questions:

* Print the first 10 state abbreviations.

"AK" "AL" "AR" "AZ" "CA" "CO" "CT" "DE" "FL" "GA"

* Central Tendencies:
  + What is the mean murder rate in the U.S. given these data?

8.727

* + What is the median murder rate?

6.800

* + What is the mean murder rate in New England?
    - Hint: Look here: <https://en.wikipedia.org/wiki/New_England>

3.55

* + Bonus: What is the mean Vcrime rate in the U.S.?

618.3

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| |  | | --- | | > | |

**Code:**

#create vectors

x<-c(5,10,15,20,25,30)

y<-c(-1,NA,75,3,5,8)

z<-c(5)

#multiply vectors

x\*z

y\*z

xz<-c(25,50,75,100,125,150)

yz<-c(-5,NA,375,15,25,40)

#print new vectors

print(xz)

print(yz)

#replace missing y and print

y<-ifelse(is.na(y),(2.5),y)

print(y)

#read doc

library(readr)

Assignemt\_1<-read\_csv(file = "https://raw.githubusercontent.com/mattdemography/EDU\_7043/master/Data/Assignment\_1.csv")

names(Assignment\_1)

print(Assignment\_1)

summary(Assignment\_1$Murder)

Assignment\_1$State[1:10]

NewEngMurder<-subset(Assignment\_1,State=="CT"|State=="ME"|State=="MA"|State=="NH"|State=="RI"|State=="VT")

summary(NewEngMurder)

#bonus

summary(Assignment\_1$Vcrime)

**Console:**

|  |
| --- |
| #create vectors  > x<-c(5,10,15,20,25,30)  > y<-c(-1,NA,75,3,5,8)  > z<-c(5)  > #multiply vectors  > x\*z  [1] 25 50 75 100 125 150  > y\*z  [1] -5 NA 375 15 25 40  > xz<-c(25,50,75,100,125,150)  > yz<-c(-5,NA,375,15,25,40)  > #print new vectors  > print(xz)  [1] 25 50 75 100 125 150  > print(yz)  [1] -5 NA 375 15 25 40  > #replace missing y and print  > y<-ifelse(is.na(y),(2.5),y)  > print(y)  [1] -1.0 2.5 75.0 3.0 5.0 8.0  > #read doc  > library(readr)  > Assignemt\_1<-read\_csv(file = "https://raw.githubusercontent.com/mattdemography/EDU\_7043/master/Data/Assignment\_1.csv")  `curl` package not installed, falling back to using `url()`  Parsed with column specification:  cols(  State = col\_character(),  Vcrime = col\_integer(),  Murder = col\_double(),  PctMetro = col\_double(),  PctWhite = col\_double(),  PctHSGrad = col\_double(),  PovRate = col\_double(),  PctSingPrt = col\_double()  )  > names(Assignment\_1)  [1] "State" "Vcrime" "Murder" "PctMetro" "PctWhite" "PctHSGrad" "PovRate"  [8] "PctSingPrt"  > print(Assignment\_1)  # A tibble: 51 x 8  State Vcrime Murder PctMetro PctWhite PctHSGrad PovRate PctSingPrt  *<chr>* *<int>* *<dbl>* *<dbl>* *<dbl>* *<dbl>* *<dbl>* *<dbl>*  1 AK 761 9 41.8 75.2 86.6 9.1 14.3  2 AL 780 11.6 67.4 73.5 66.9 17.4 11.5  3 AR 593 10.2 44.7 82.9 66.3 20 10.7  4 AZ 715 8.6 84.7 88.6 78.7 15.4 12.1  5 CA 1078 13.1 96.7 79.3 76.2 18.2 12.5  6 CO 567 5.8 81.8 92.5 84.4 9.9 12.1  7 CT 456 6.3 95.7 89 79.2 8.5 10.1  8 DE 686 5 82.7 79.4 77.5 10.2 11.4  9 FL 1206 8.9 93 83.5 74.4 17.8 10.6  10 GA 723 11.4 67.7 70.8 70.9 13.5 13  # ... with 41 more rows  > summary(Assignment\_1$Murder)  Min. 1st Qu. Median Mean 3rd Qu. Max.  1.600 3.900 6.800 8.727 10.350 78.500  > Assignment\_1$State[1:10]  [1] "AK" "AL" "AR" "AZ" "CA" "CO" "CT" "DE" "FL" "GA"  > NewEngMurder<-subset(Assignment\_1,State=="CT"|State=="ME"|State=="MA"|State=="NH"|State=="RI"|State=="VT")  > summary(NewEngMurder)  State Vcrime Murder PctMetro PctWhite PctHSGrad  Length:6 Min. :114.0 Min. :1.60 Min. :27.00 Min. :89.00 Min. :72.00  Class :character 1st Qu.:129.0 1st Qu.:2.40 1st Qu.:41.62 1st Qu.:91.47 1st Qu.:78.90  Mode :character Median :270.0 Median :3.75 Median :76.50 Median :95.30 Median :79.60  Mean :340.2 Mean :3.55 Mean :67.93 Mean :94.60 Mean :78.83  3rd Qu.:442.5 3rd Qu.:3.90 3rd Qu.:95.17 3rd Qu.:98.30 3rd Qu.:80.60  Max. :805.0 Max. :6.30 Max. :96.20 Max. :98.50 Max. :82.20  PovRate PctSingPrt  Min. : 8.500 Min. : 9.20  1st Qu.: 9.925 1st Qu.:10.22  Median :10.350 Median :10.70  Mean :10.167 Mean :10.43  3rd Qu.:10.700 3rd Qu.:10.88  Max. :11.200 Max. :11.00  > #bonus  > summary(Assignment\_1$Vcrime)  Min. 1st Qu. Median Mean 3rd Qu. Max. NA's  82.0 326.2 541.0 618.3 776.5 2922.0 1 |