Worksheet-2 in r

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#1. Create a vector using : operator
#a. Sequence from -5 to 5. Write the R code and its output. Describe its output.

#seq <- c(-5:5)
#seq

#b. x <- 1:7. What will be the value of x?

#x <- 1:7


#2.* Create a vector using seq() function
#a. seq(1, 3, by=0.2) # specify step size

#seq(1,3,by= 0.2)


#3. A factory has a census of its workers. There are 50 workers in total.
The following list shows their ages: 34, 28, 22, 36, 27, 18, 52, 39, 42, 29, 35, 31,
27, 22, 37, 34, 19, 20, 57, 49, 50, 37, 46, 25, 17, 37, 43, 53, 41, 51, 35,
#24,33, 41, 53, 40, 18, 44, 38, 41, 48, 27, 39, 19, 30, 61, 54, 58, 26,
#18.

Workers <- c(34, 28, 22, 36, 27, 18, 52, 39, 42, 29, 35, 31, 27,
             22, 37, 34, 19, 20, 57, 49, 50, 37, 46, 25, 17, 37, 43, 53, 41, 51,
             35, 24,33, 41, 53, 40, 18, 44, 38, 41, 48, 27, 39, 19, 30, 61, 54,
             58, 26, 18)


#a. Access 3rd element, what is the value?

Workers[3]


#b. Access 2nd and 4th element, what are the values?

Workers[2]

Workers[4]

#c. Access all but the 1st element is not included. Write the R code and its
output.
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Workers[2:49]


#4. *Create a vector x <- c("first"=3, "second"=0, "third"=9). Then named the
vector, names(x).

#a. Print the results. Then access x[c("first", "third")]. Describe the output.
#b. Write the code and its output.

x <- c("first"= 3, "second"= 0, "third" = 9)
names(x)


#5. Create a sequence x from -3:2.

x <- c(-3:32)
x

#6. *The following data shows the diesel fuel purchased by Mr. Cruz.
Month   Jan Feb March   Apr May June
Price per liter (PhP)   52.50   57.25   60.00   65.00   74.25   54.00
Purchase-quantity(Liters)   25  30  40  50  10  45
#a. Create a data frame for month, price per liter (php) and purchase-quantity (liter).Write the codes.

Month <- c("Jan", "Feb", "March", "Apr", "May", "June")
Month
Price <- c(52.50, 57.25, 60.00, 65.00,  74.25,  54.00)
Price
Quantity <- c(25, 30,   40, 50, 10, 45)
data_frame <- data.frame(Month, Price, Quantity)
data_frame

#b. What is the average fuel expenditure of Mr. Cruz from Jan to June?
Note: Use weighted.mean(liter, purchase)

weighted.mean(Price, Quantity)

#7. R has actually lots of built-in datasets. For example, the rivers data
"gives the lengths
(in miles) of 141 "major" rivers in North America, as compiled by the US
Geological Survey".
#a. Type "rivers" in your R console. Create a vector data with 7elements,
containing the number of elements (length) in rivers, their sum (sum), mean
(mean), median (median), variance (var) standard deviation (sd), minimum (min)
and maximum (max).
data <- c(length(rivers), sum(rivers), mean(rivers), median(rivers),
var(rivers), sd(rivers), min(rivers), max(rivers))


#7.
##code

data <- c(length(rivers), sum(rivers), mean(rivers), median(rivers),
var(rivers), sd(rivers), min(rivers), max(rivers))
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data

#8. The table below gives the 25 most powerful celebrities and their annual pay
as ranked by the editions of Forbes magazine and as listed on the Forbes.com
website.

#a
Magazine_data <- data.frame(PowerRanking = c(1, 2, 3, 4, 5, 6, 7,8,9,10,11,12,13,14,15,16,17,18,19,20,2

  CelebrityName = c("Tom Cruise","Rolling Stones", "Oprah Winfrey","U2","Tiger Woods","Steven Speilberg
  "Dan Brown","Bruce Springsteen", "Donald Trump", "Muhammand Ali","Paul McCartney","George Lucas","Elt
  "Phil Mickelson", "J.K Rowling", "Bradd Pitt","Peter Jackson",
  "Dr.Phil McGraw","Jay Lenon","Celine Dion","Kobe Bryan"),

  Pay = c(67,90,225,110,90,32,302,41,52,88,55,44,55,40,233,34,40,47,75,25,39,45,32,40,31))

gfg_table<- table(Magazine_data$PowerRanking,Magazine_data$CelebrityName,Magazine_data$Pay)

gfg_table

#b . Modify the power ranking and pay of J.K. Rowling. Change power ranking to 15 and pay to 90. Write

PowerRanking [19] <- 15
PowerRanking
Pay [19] <- 90
Pay

Magazine_Ranking <- data.frame(PowerRanking, CelebrityName, Pay)
Magazine_Ranking
#Output:
#[1]  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 15 20 21 22 23 24 25

#[1]  67  90 225 110  90 332 302  41  52  88  55  44  55  40 233  34  40  47  90  25  39  45  32  40  3

#PowerRanking        CelebrityName Pay
#1             1            Tom Cruise  67
#2             2       Rolling Stones  90
#3             3        Oprah Winfrey 225
#4             4                   U2 110
#5             5          Tiger Woods  90
#6             6     Steven Spielberg 332
#7             7         Howard Stern 302
#8             8              50 Cent  41
#9             9 Cast of the sopranos  52
#10           10            Dan Brown  88
#11           11    Bruce Springsteen  55
#12           12         Donald Trump  44
```