jasss.R

HP

2022-08-16

```
print("Create a new object x that stores the values (2,4,3,5,7,9).Run the following commands on R. Also
```

```
## [1] "Create a new object x that stores the values (2,4,3,5,7,9).Run the following commands on R. Also
```

```
x<-c(2,4,3,5,7,9)
length(x)
```

```
## [1] 6
```

```
#counts no. of elements in the vector.
sum(x)
```

```
## [1] 30
```

```
#adds all the elements.
mean(x)
```

```
## [1] 5
```

```
#it calculates the average.
min(x)
```

```
## [1] 2
```

```
#smallest element of the vector
max(x)
```

```
## [1] 9
```

```
#largest element of the vector
range(x)
```

```
## [1] 2 9
```

```
#it returns a vector containing the minimum and maximum of all the given arguments.
median(x)
```

```
## [1] 4.5
```

```r
#middle value
quantile(x)
```

```
##   0%  25%  50%  75% 100%
## 2.00 3.25 4.50 6.50 9.00
```

```r
#it divides  the data into equal halves,in which the median acts as middle and over the remaining lower
summary(x)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    2.00    3.25    4.50    5.00    6.50    9.00
```

```r
#summary is a generic function used to produce result summaries of the results of various model fitting
sort(x)
```

```
## [1] 2 3 4 5 7 9
```

```r
#sort a vector into ascending or descending order.
rev(sort(x))
```

```
## [1] 9 7 5 4 3 2
```

```r
#it reverse the vector
order(x)
```

```
## [1] 1 3 2 4 5 6
```

```r
#it will sort the given numbers according to its index in the ascending order
x[order(x)]
```

```
## [1] 2 3 4 5 7 9
```

```r
#it gives the values of corresponding indexes
x[2]
```

```
## [1] 4
```

```r
#it returns value of 2nd index
x[c(2,4)]
```

```
## [1] 4 5
```

```r
#it returns value of 2nd and 4th index.
x[-2]
```

```
## [1] 2 3 5 7 9
```

```r
#it deletes the value at given index from vector
x[-c(1,3)]
```

```
## [1] 4 5 7 9
```

```r
#it
log(x)
```

```
## [1] 0.6931472 1.3862944 1.0986123 1.6094379 1.9459101 2.1972246
```

```r
log(x,base=10)
```

```
## [1] 0.3010300 0.6020600 0.4771213 0.6989700 0.8450980 0.9542425
```

```r
log(x,base = 2)
```

```
## [1] 1.000000 2.000000 1.584963 2.321928 2.807355 3.169925
```

```r
1+x
```

```
## [1]  3  5  4  6  8 10
```

```r
2*x
```

```
## [1]  4  8  6 10 14 18
```

```r
log(1+x)
```

```
## [1] 1.098612 1.609438 1.386294 1.791759 2.079442 2.302585
```

```r
log(2*x)
```

```
## [1] 1.386294 2.079442 1.791759 2.302585 2.639057 2.890372
```

```r
sqrt(x)
```

```
## [1] 1.414214 2.000000 1.732051 2.236068 2.645751 3.000000
```

```r
x^2
```

```
## [1]  4 16  9 25 49 81
```

```r
x^0.32
```

```
## [1] 1.248331 1.558329 1.421277 1.673672 1.863938 2.020029
```

```
sum(x^0.32)
```

```
## [1] 9.785576
```

```
sin(x)
```

```
## [1]  0.9092974 -0.7568025  0.1411200 -0.9589243  0.6569866  0.4121185
```

```
cos(x)
```

```
## [1] -0.4161468 -0.6536436 -0.9899925  0.2836622  0.7539023 -0.9111303
```

```
tan(x)
```

```
## [1] -2.1850399  1.1578213 -0.1425465 -3.3805150  0.8714480 -0.4523157
```

```
170166719/31079
```

```
## [1] 5475.296
```

```
170166719%%31079
```

```
## [1] 9194
```

```
170166719%/%31079
```

```
## [1] 5475
```

```
print("Q-2 Using rep() and seq() as needed,create the vectors")
```

```
## [1] "Q-2 Using rep() and seq() as needed,create the vectors"
```

```
a<-seq(0,4)
rep(a,each=5)
```

```
##  [1] 0 0 0 0 0 1 1 1 1 1 2 2 2 2 2 3 3 3 3 3 4 4 4 4 4
```

```
b<-seq(1,5)
rep(b,5)
```

```
##  [1] 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5
```

```
print("Q-3 Using rep() and seq() as needed,create the vectors")
```

```
## [1] "Q-3 Using rep() and seq() as needed,create the vectors"
```

```r
x<-c(1:5,2:6,3:7,4:8,5:9)
x
```

```
##  [1] 1 2 3 4 5 2 3 4 5 6 3 4 5 6 7 4 5 6 7 8 5 6 7 8 9
```

```r
print("Q-4 Create and store a sequence of values from 5 to -11 that progress in steps of 0.3")
```

```
## [1] "Q-4 Create and store a sequence of values from 5 to -11 that progress in steps of 0.3"
```

```r
seq(5,-11,by=-0.3)
```

```
##  [1]   5.0   4.7   4.4   4.1   3.8   3.5   3.2   2.9   2.6   2.3   2.0   1.7
## [13]   1.4   1.1   0.8   0.5   0.2  -0.1  -0.4  -0.7  -1.0  -1.3  -1.6  -1.9
## [25]  -2.2  -2.5  -2.8  -3.1  -3.4  -3.7  -4.0  -4.3  -4.6  -4.9  -5.2  -5.5
## [37]  -5.8  -6.1  -6.4  -6.7  -7.0  -7.3  -7.6  -7.9  -8.2  -8.5  -8.8  -9.1
## [49]  -9.4  -9.7 -10.0 -10.3 -10.6 -10.9
```

```r
print("Q-5 The following are a sample of observations on incoming solar radiation at a green house.")
```

```
## [1] "Q-5 The following are a sample of observations on incoming solar radiation at a green house."
```

```r
solar.radiation<-c(11.1,10.6,6,3,8.8,10.7,11.2,8.9,12.2)
mean(solar.radiation)
```

```
## [1] 9.166667
```

```r
median(solar.radiation)
```

```
## [1] 10.6
```

```r
# solar.radiation**2
# solar.radiation^2
var(solar.radiation)
```

```
## [1] 8.7175
```

```r
srm2<-solar.radiation+10
srm2
```

```
## [1] 21.1 20.6 16.0 13.0 18.8 20.7 21.2 18.9 22.2
```

```r
mean(srm2)
```

```
## [1] 19.16667
```

```r
median(srm2)
```

```
## [1] 20.6
```

```r
var(srm2)
```

```
## [1] 8.7175
```

```r
F<-c(45,77,20,19,101,120,212)
```