CSE3505_FDA_Lab_Exp_1

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Contents

Lab 1 Exercise Understanding Basic Data Types in R

```
rm(list=ls())
```

1) initial decimal money let it be A

```
A<-10.5
A
```

```
## [1] 10.5
```

2) class name of A

```
class(A)
```

```
## [1] "numeric"
```

3) checking A is numeric?

```
is.numeric(A)
```

```
## [1] TRUE
```

4) integer value to B and Displaying it

```
B<-5
B
```

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

5) check B is Integer ?

```
is.integer(B)
```

```
## [1] FALSE
```

6) variable c to store rupee part of A

```
C<-as.integer(A)
C
```

```
## [1] 10
```

7) cost of one chocolate

```
cost=C/B
cost
```

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

8) representing money as char string

```
as.character(A)
```

```
## [1] "10.5"
```

9) storing first and last name of kid

```
first_name<-"Jai"
last_name<-"Ganesh"
```

10) displaying message

```
message<-paste(first_name,last_name,"bought" ,as.character(B) ,"chocolates")
message
```

```
## [1] "Jai Ganesh bought 5 chocolates"
```

11) extracting "Little" from "Twinkle Twinkle Little Star"

```
rhymes<-"Twinkle Twinkle Little Star"
rhymes
```

```
## [1] "Twinkle Twinkle Little Star"
```

```
extracted_text=substr(rhymes, 17, 22)
extracted_text
```

```
## [1] "Little"
```

12) replacing little as big

```
library("stringr")
rhymes<-sub( "Little", "Big",rhymes)
rhymes
```

```
## [1] "Twinkle Twinkle Big Star"
```

13) complex no to x

```
x<-2+3i
x
```

```
## [1] 2+3i
```

14) real part of x

```
Re(x)
```

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

15) imaginary part of x

```
Im(x)
```

```
## [1] 3
```

16) computing square root of negative number

```
sqrt(as.complex(-15))
```

```
## [1] 0+3.872983i
```

Lab 1 Sample Practice

assign and print a variable

```
x<-1
print(x)
```

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

```
x
```

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

```
msg="hello"
msg
```

```
## [1] "hello"
```

```
typeof(x)
```

```
## [1] "double"
```

```
typeof(msg)
```

```
## [1] "character"
```

explicit and implicit printing

```
x<-1:20
print(x)
```

```
##  [1]  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20
```

```
x
```

```
##  [1]  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20
```

```
rollNo<-1:70
rollNo
```

```
##  [1]  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
## [26] 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50
## [51] 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70
```

```
y<-20:30
y
```

```
##  [1] 20 21 22 23 24 25 26 27 28 29 30
```

```
x<-c(0.5,0.6)
x
```

```
## [1] 0.5 0.6
```

```
x<-c(TRUE,FALSE)
x
```

```
## [1]  TRUE FALSE
```

```
x<-c(T,F)
x
```

```
## [1]  TRUE FALSE
```

```
x<-c("a","b","c")
x
```

```
## [1] "a" "b" "c"
```

```
x=9:29
x
```

```
##  [1]  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
```

```
x=c(1+0i,2+4i)
x
```

```
## [1] 1+0i 2+4i
```

```
x<-vector("numeric",length=10)
x
```

```
##  [1] 0 0 0 0 0 0 0 0 0 0
```

to get help

```
?type
```

```
help(type)
```

```
y1<-c(1.7,"a")
y1
```

```
## [1] "1.7" "a"
```

```
y2=c(TRUE,2)
y2
```

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

```
y3<-c("a",TRUE);y3
```

```
## [1] "a"    "TRUE"
```

```
class(y1)
```

```
## [1] "character"
```

```
class(y2)
```

```
## [1] "numeric"
```

```
class(y3)
```

```
## [1] "character"
```

```
y11<-c(1.7,"3.2")
y11
```

```
## [1] "1.7" "3.2"
```

```
class(y11)
```

```
## [1] "character"
```

```
y22<-c(FALSE,TRUE)
y22
```

```
## [1] FALSE  TRUE
```

```
class(y22)
```

```
## [1] "logical"
```

Explicit Coercion

```
x<-0:6
x
```

```
## [1] 0 1 2 3 4 5 6
```

```
class(x)
```

```
## [1] "integer"
```

```
y=as.numeric(x)
y
```

```
## [1] 0 1 2 3 4 5 6
```

```
class(y)
```

```
## [1] "numeric"
```

```
z=as.character(x)
z
```

```
## [1] "0" "1" "2" "3" "4" "5" "6"
```

```
class(z)
```

```
## [1] "character"
```

```
l=as.logical(x)
l
```

```
## [1] FALSE  TRUE  TRUE  TRUE  TRUE  TRUE  TRUE
```

```
class(l)
```

```
## [1] "logical"
```

```
com=as.complex(x)
com
```

```
## [1] 0+0i 1+0i 2+0i 3+0i 4+0i 5+0i 6+0i
```

```
class(com)
```

```
## [1] "complex"
```