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LAB PROGRAM 11

1. Create variables by taking input from user with readline(), cat(), and scan() commands and analyze the differences.

In [1]:

```
a <- as.integer(readline("Enter a number"))
print(a)
```

```
Enter a number7
[1] 7
```

In [2]:

```
b <- cat("Enter anything u please:",readline())
```

```
This is R
Enter anything u please: This is R
```

In [16]:

```
c <- scan("archive.csv", what = list("", "", ""))
c
```

1. 'Year,Punxsutawney' · 'Temperature,February' · '(Northeast),February' · '(Midwest),February' · '(Pennsylvania),March' · 'Average' · 'Average' · 'Average' · '1886,No' · 'Shadow,,,,,,,,' · '1889,No' · 'Shadow,,,,,,,,' · '1892,No' · 'Record,,,,,,,,' · '1895,No' · 'Record,35.04,22.2,33.5,26.6,38.03,25.3,36.9,27.8' · '1898,Full' · 'Record,25.5,18.1,22.2,20,37.63,29.3,38.4,34' · '1901,Full' · 'Record,31.46,20.1,23.6,21,41.58,37.1,43.9,38.8' · '1904,Full' · 'Shadow,26.94,15.2,22.2,18.1,45.12,31.4,47.2,36.9' · '1907,Full' · 'Shadow,33.01,18.4,31.2,22.1,43.92,32.7,47.1,38.4' · '1910,Full' · 'Shadow,33.66,21.4,37.5,28.5,44.02,28.4,42.9,32.8' · '1913,Full' · 'Shadow,29.52,14.5,26.3,18.7,40.75,29.6,39,31.7' · '1916,Full' · 'Shadow,30.09,17.8,29.1,23,38.35,31.2,42.6,35.4' · '1919,Full' · 'Shadow,33.69,19.6,31.5,23,40.28,32.7,42.9,36.7' · '1922,Full' · 'Shadow,29.57,16.2,29.1,22.1,38.3,27.9,40.1,34.3' · '1925,Full' · 'Shadow,37.67,20.5,36.3,25.8,39.65,25.9,36.3,30.2' · '1928,Full' · 'Shadow,26.92,21.7,26.2,24.7,43.56,36.2,47.5,41' · '1931,Full' · 'Shadow,36.7,25.7,41,32.6,37.36,28.1,36.3,30.8' · '1934,No' ·

2. Explore the string manipulation functions such as grep(), nchar(), paste(), sprint(), substr(), strsplit(),regexpr(), gregexpr(),

In [4]:

```
str <- "Riyuzaki"
str
```

'Riyuzaki'

In [5]:

```
grep("Pole",c("Equator","North Pole","South Pole"))
paste("North","Pole",sep=" ")
```

2 · 3

'North Pole'

In [6]:

```
nchar(str)
```

8

In [8]:

```
paste("hahaha", str)
```

'hahaha Riyuzaki'

In [9]:

```
sprintf("hahaha %s", str)
```

'hahaha Riyuzaki'

In [10]:

```
substring(str,1,4)
```

'Riyu'

In [11]:

```
strsplit("dead-beef", "-")
```

1. 'dead' · 'beef'

In [12]:

```
gregexpr("iss","Mississippi")
```

1. 2 · 5

3. Create variables by calling .csv, .xls, etc., files from system's storage and convert one format to another formats.

In [14]:

```
df <- read.csv('archive.csv')
head(df)
```

A data.frame: 6 × 10

	Year	Punxsutawney.Phil	February.Average.Temperature	February.Average.Temperature..Northe
	<fct>	<fct>	<dbl>	<d
1	1886	No Record	NA	
2	1887	Full Shadow	NA	
3	1888	Full Shadow	NA	
4	1889	No Record	NA	
5	1890	No Shadow	NA	
6	1891	No Record	NA	

In [15]:

```
tail(df)
```

A data.frame: 6 × 10

	Year	Punxsutawney.Phil	February.Average.Temperature	February.Average.Temperature..Nort
	<fct>	<fct>	<dbl>	
127	2012	Full Shadow	37.51	
128	2013	No Shadow	34.77	
129	2014	Full Shadow	32.13	
130	2015	Full Shadow	32.99	
131	2016	No Shadow	39.47	
132	1901-2000		33.82	

```
install.packages('openxlsx')
```

```
install.packages('rio')
```

In [38]:

```
library(openxlsx)
library("rio")
```

In [41]:

```
export(df, "archive.xlsx")
```

5. Write a program to set up socket connection with clients in R.

In [48]:

```
install.packages('svSocket')
```

```
Installing package into ‘/srv/rlibs’
(as ‘lib’ is unspecified)

also installing the dependency ‘svMisc’
```

In [*]:

```
library(svSocket)
startSocketServer()
# Start a second R process and run this code in it (the R client):
library(svSocket)
# Connect with the R socket server
con <- socketConnection(host = "localhost", port = 8888, blocking = FALSE)
L <- 10:20
L
evalServer(con, L) # L is not an the server, hence the error
evalServer(con, L, L) # Send it to the server
evalServer(con, L) # Now it is there
evalServer(con, L, L + 2)
L
evalServer(con, L)
```

```
Warning message:
“no DISPLAY variable so Tk is not available”
```

TRUE

10 · 11 · 12 · 13 · 14 · 15 · 16 · 17 · 18 · 19 · 20