Introduction to R Software

Swayam Prabha

Lecture 18

Sequences of Dates and Alphabets

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Slides can be downloaded from

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Sequences

Generating sequences of dates

Generating current time and date

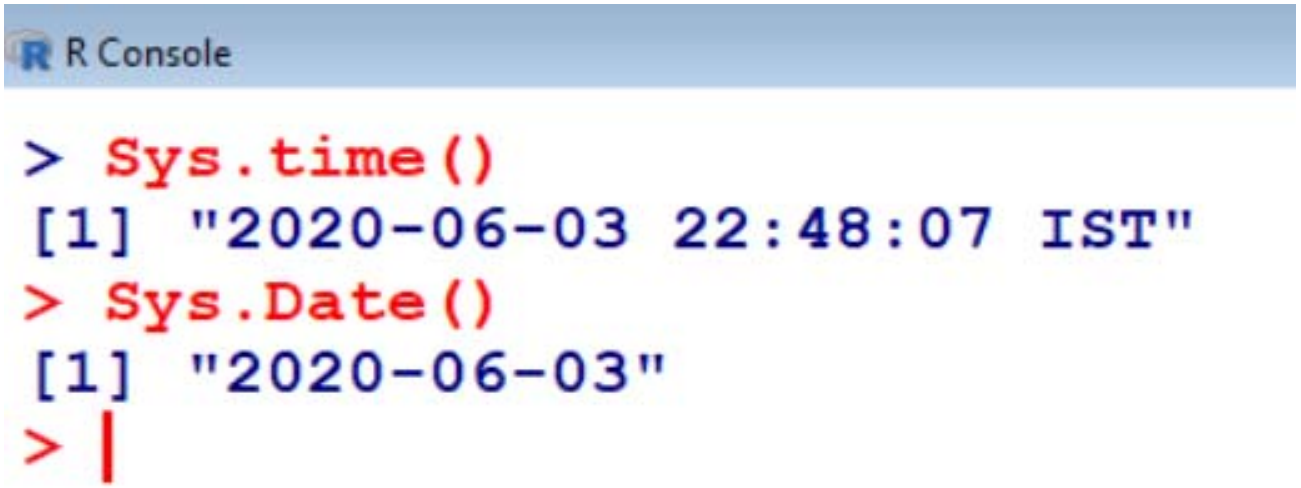
`Sys.time()` command provides the current time and date from the computer system.

```
> Sys.time()
[1] "2020-06-03 22:48:07 IST"
```

`Sys.Date()` command provides the current date from the computer system.

```
> Sys.Date()
[1] "2020-06-03"
```

Sequences



Sequences

Generating sequences of dates

Usage

```
seq(from, to, by, length.out = NULL, along.with
= NULL, ...)
```

Arguments

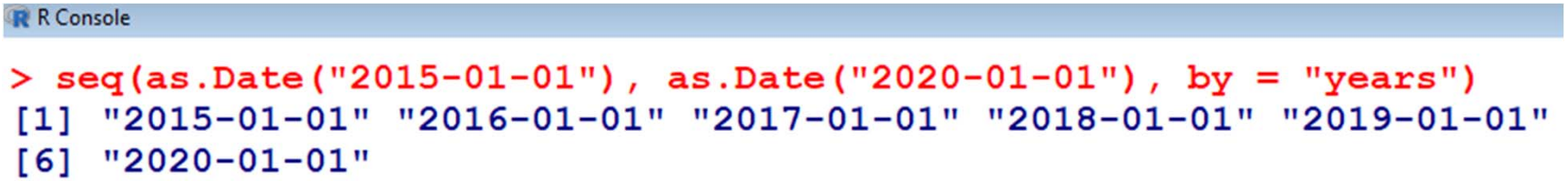
`from`	starting date (Required)
`to`	end date (Optional)
`by`	increment of the sequence. `"day", "week", "month", "quarter"` or `"year"`.
`length.out`	integer, optional. Desired length of the sequence.
`along.with`	take the length from the length of this argument.

Sequences

Generating sequences of dates

Sequence of first day of years

```
> seq(as.Date("2015-01-01"), as.Date("2020-01-01"), by = "years")
[1] "2015-01-01" "2016-01-01" "2017-01-01" "2018-01-01" "2019-01-01"
[6] "2020-01-01"
```

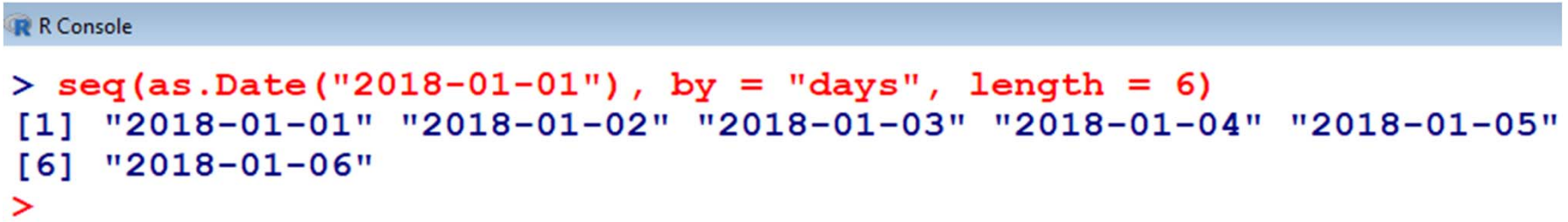


Sequences

Generating sequences of dates

Sequence of days

```
> seq(as.Date("2018-01-01"), by = "days",
length = 6)
[1] "2018-01-01" "2018-01-02" "2018-01-03"
"2018-01-04" "2018-01-05"
[6] "2018-01-06"
```

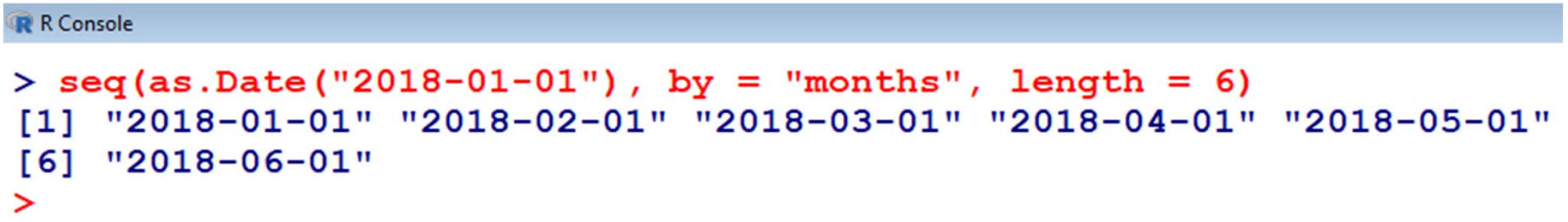


Sequences

Generating sequences of dates

Sequence of months

```
> seq(as.Date("2018-01-01"), by = "months",
length = 6)
[1] "2018-01-01" "2018-02-01" "2018-03-01"
"2018-04-01" "2018-05-01"
[6] "2018-06-01"
```

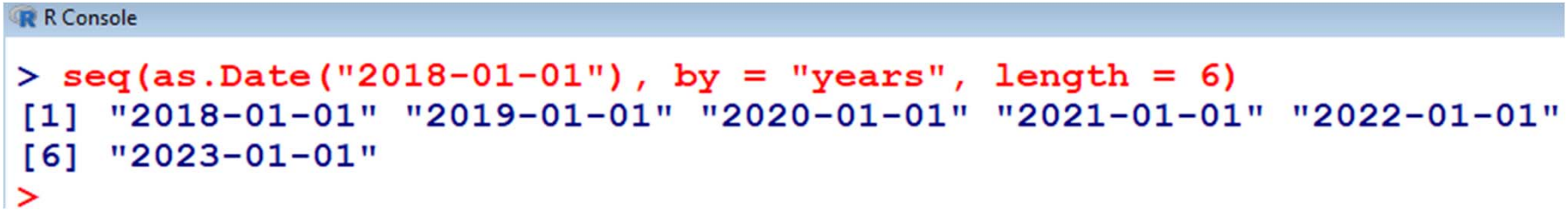


Sequences

Generating sequences of dates

Sequence by years

```
> seq(as.Date("2018-01-01"), by = "years",
length = 6)
[1] "2018-01-01" "2019-01-01" "2020-01-01"
"2021-01-01" "2022-01-01"
[6] "2023-01-01"
```



Sequences

Generating sequences of dates

To find sequence with defining start and end dates

```
> startdate <- as.Date("2019-1-1")
> enddate <- as.Date("2020-1-1")

> out <- seq(enddate, startdate, by = "-1
month")

[1] "2020-01-01" "2019-12-01" "2019-11-01"
"2019-10-01" "2019-09-01"
 [6] "2019-08-01" "2019-07-01" "2019-06-01"
"2019-05-01" "2019-04-01"
[11] "2019-03-01" "2019-02-01" "2019-01-01"
```

Sequences

Generating sequences of dates

R Console

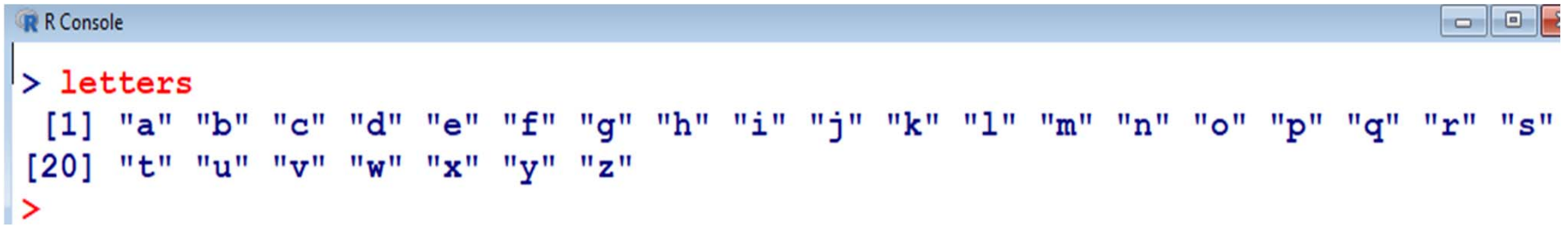
```
> startdate <- as.Date("2019-1-1")
> enddate <- as.Date("2020-1-1")
> out <- seq(enddate, startdate, by = "-1 month")
> out
 [1] "2020-01-01" "2019-12-01" "2019-11-01" "2019-10-01" "2019-09-01"
 [6] "2019-08-01" "2019-07-01" "2019-06-01" "2019-05-01" "2019-04-01"
[11] "2019-03-01" "2019-02-01" "2019-01-01"
>
```

Sequences

Generating sequences of letters

`letters` is used to find sequence of lowercase alphabets

```
> letters
[1] "a" "b" "c" "d" "e" "f" "g" "h" "i" "j" "k"
"l" "m" "n" "o" "p" "q" "r" "s"
[20] "t" "u" "v" "w" "x" "y" "z"
```



Sequences

Generating sequences of letters

`letters[from_index:to_index]` is used to find sequence of lowercase alphabets from a particular index to a specified index.

```
> letters[1:5]
[1] "a" "b" "c" "d" "e"

> letters[5:1]
[1] "e" "d" "c" "b" "a"

> letters[15:21]
[1] "o" "p" "q" "r" "s" "t" "u"

> letters[9]
[1] "i"
```

Sequences

R Console

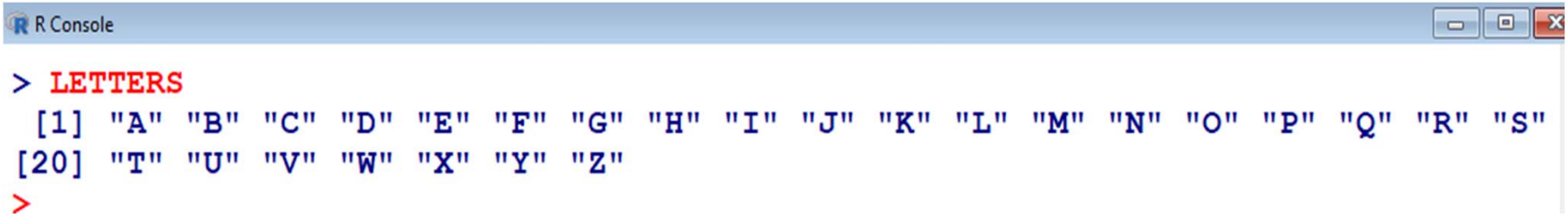
```
> letters[1:5]
[1] "a" "b" "c" "d" "e"
>
> letters[5:1]
[1] "e" "d" "c" "b" "a"
>
> letters[15:21]
[1] "o" "p" "q" "r" "s" "t" "u"
>
> letters[9]
[1] "i"
>
```

Sequences

Generating sequences of alphabets

LETTERS is used to find sequence of uppercase alphabets

```
> LETTERS
[1] "A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K"
"L" "M" "N" "O" "P" "Q" "R" "S"
[20] "T" "U" "V" "W" "X" "Y" "Z"
```



Sequences

Generating sequences of alphabets

`LETTERS[from_index:to_index]` is used to find sequence of uppercase alphabets from a particular index to a specified index.

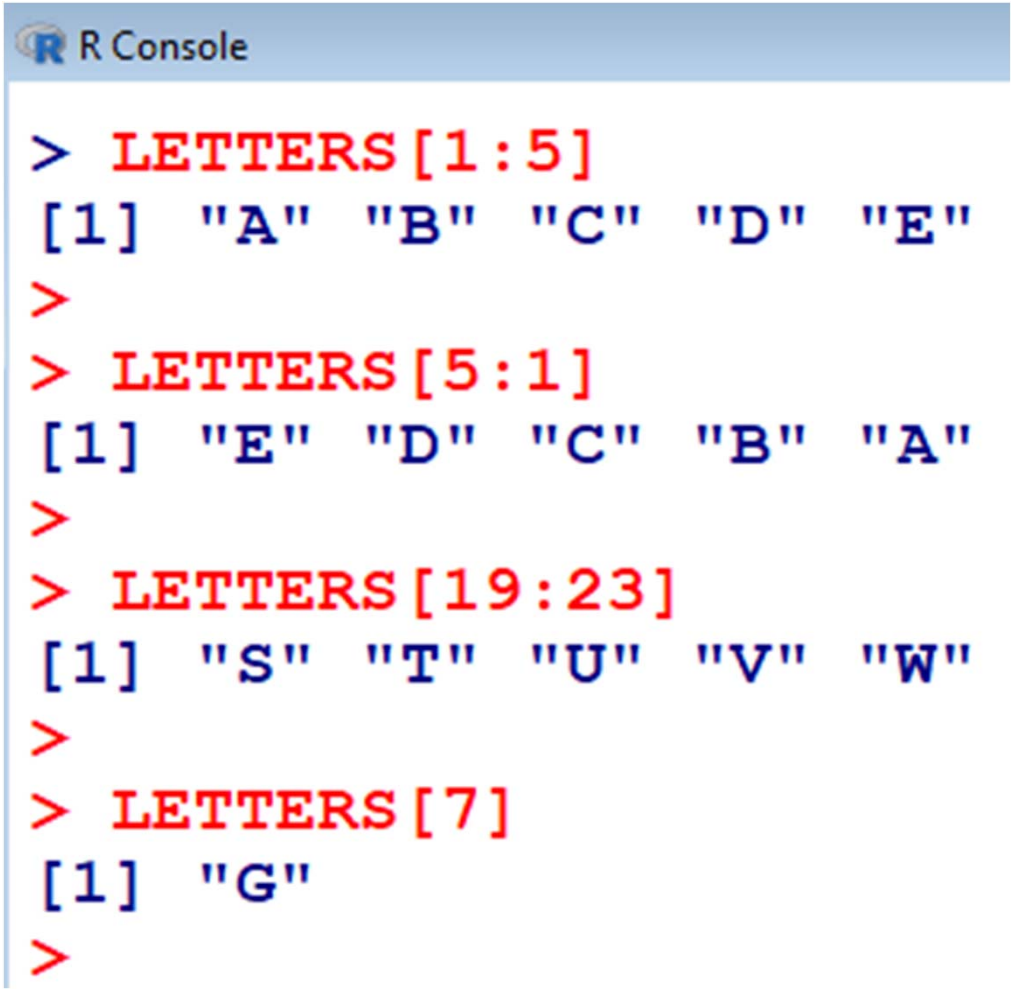
```
> LETTERS[1:5]
[1] "A" "B" "C" "D" "E"

> LETTERS[5:1]
[1] "E" "D" "C" "B" "A"

> LETTERS[19:23]
[1] "S" "T" "U" "V" "W"

> LETTERS[7]
[1] "G"
```

Sequences


R Console
> LETTERS[1:5]
[1] "A" "B" "C" "D" "E"
>
> LETTERS[5:1]
[1] "E" "D" "C" "B" "A"
>
> LETTERS[19:23]
[1] "S" "T" "U" "V" "W"
>
> LETTERS[7]
[1] "G"
>