

MVLU COLLEGE

R PRACTICAL 3

Aim: Exploring data: View() or print() (R).

```
1 install.packages(c("readr", "psych"))
2
3 library(readr) # For efficient data reading
4 library(psych) # For descriptive statistics
5
6 my_data <- read.csv("Fastest.Fifties.csv")
7
8 # View the first few rows
9 head(Fastest.Fifties)
10
11 # View the last few rows
12 tail(Fastest.Fifties)
13
14 # Get the dimensions (rows and columns)
15 dim(Fastest.Fifties)
16
17 # Get the dimensions (rows and columns)
18 cat("Dimensions (Rows, Columns): ", dim(Fastest.Fifties), "\n")
19
20 # Get the structure (variable types and number of observations)
21 str(Fastest.Fifties)
22
23 # See a summary of the dataset
24 summary(Fastest.Fifties)
25
26 # Get the column names
27 names(Fastest.Fifties)
28 cat("Column Names: ", names(Fastest.Fifties), "\n")
29
30 # Use the 'psych' package for more detailed descriptive statistics
31 # 'describe()' provides: n, mean, sd, median, trimmed mean, mad, min, max, range, skew, kurtosis
32 describe(Fastest.Fifties)
```

```
> Fastest.Fifties
      POS   Player Runs BF  X4s  X6s Against
1      1    KL Rahul  51 14   6   4      DC
2      2  Ishan Kishan  62 17   5   6      KKR
3      3  Sunil Narine  50 17   4   5      RCB
4      4   Jos Buttler  67 18   4   7      DC
5      5   Sam Billings  56 21   2   5      KKR
6      6    KL Rahul  66 22   2   7      KKR
7      7  Chris Gayle  63 22   7   4      CSK
8      8   MS Dhoni  51 22   2   5      DC
9      9  Kieron Pollard  50 22   5   3      PBKS
10     10  Dinesh Karthik  50 22   5   3      PBKS
11     11  Rishabh Pant  69 23   7   5      RR
12     12  AB de Villiers  68 23   2   8      CSK
13     13  AB de Villiers  90 24  10   5      DC
14     14    KL Rahul  60 24   9   2      KKR
15     15  Shane Watson  78 25   4   7      DC
16     16  Dwayne Bravo  68 25   3   7      MI
17     17  Moeen Ali  65 25   2   6      SRH
18     18  Prithvi Shaw  65 25   6   3      SRH
19     19  Karun Nair  54 25   3   5      CSK
20     20   Jos Buttler  95 26  11   2      CSK
21     21  Andre Russell  88 26   1  11      CSK
22     22  Sunil Narine  75 26   9   4      PBKS
23     23  Virat Kohli  70 26   7   3      DC
24     24  Virat Kohli  57 26   7   2      RR
25     25  Jason Roy  91 27   6   6      MI
26     26   Jos Buttler  82 27   9   1      PBKS
27     27  Ambati Rayudu  79 27   9   4      SRH
28     28  Rishabh Pant  61 27   5   4      RCB
29     29  Shane Watson  106 28   9   6      RR
30     30  Kane Williamson  81 28   7   5      RCB
31     31  AB de Villiers  72 28   4   6      DC
32     32  Chris Gayle  62 28   5   6      KKR
33     33  Vijay Shankar  54 28   1   5      CSK
```

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The screenshot shows the RStudio interface with a data frame loaded into the console. The data frame contains columns for Player, Runs, BF, X4s, X6s, Against, Venue, and Match.Date. The data is as follows:

Player	Runs	BF	X4s	X6s	Against	Venue	Match.Date
Hardik Pandya	50	41	5	1	RCB	IS Bindra Stadium	08 April 2018
Ajinkya Rahane	65	42	5	1	SRH	Eden Gardens	09 May 2018
Chris Lynn	62	42	7	1	RCB	Eden Gardens	08 April 2018
Kane Williamson	50	43	4	1	KKR	Arun Jaitley Stadium	02 May 2018
KL Rahul	84	44	7	3	RR	Chidambaram	10 April 2018
Suresh Raina	61	45	4	2	PBKS	Holkar Cricket Stadium	12 May 2018
KL Rahul	95	48	11	2	RR	IS Bindra Stadium	15 April 2018
Manish Pandey	54	48	3	1	PBKS	Maharashtra Cricket Association's International Stadium	30 April 2018

The screenshot shows the RStudio interface with the following R commands and their outputs in the console:

```
> describe(Fastest.Fifties)
vars  n mean sd median trimmed mad min max range skew kurtosis se
POS    1 106 53.50 30.74 53.5 53.50 39.29 1 106 105 0.00 -1.23 2.99
Player* 2 106 21.27 12.38 20.0 21.40 17.05 1 41 40 -0.06 -1.25 1.20
Runs    3 106 67.93 16.85 62.5 65.98 14.83 50 128 78 1.05 0.64 1.64
BF      4 106 31.87 6.74 32.0 31.93 7.41 14 48 34 -0.12 -0.21 0.65
X4s     5 106 5.68 2.70 5.0 5.51 2.97 1 15 14 0.69 0.71 0.26
X6s     6 106 3.75 2.38 3.0 3.53 1.48 0 11 11 0.89 0.58 0.23
Against* 7 106 4.56 2.32 5.0 4.57 2.97 1 8 7 -0.08 -1.29 0.23
Venue*  8 106 5.92 2.90 6.0 6.01 2.97 1 10 9 -0.28 -1.05 0.28
Match.Date* 9 106 22.14 11.26 22.5 22.22 12.60 1 41 40 -0.08 -1.05 1.09

> names(Fastest.Fifties)
[1] "POS" "Player" "Runs" "BF" "X4s" "X6s" "Against"

> summary(Fastest.Fifties)
      POS      Player      Runs      BF      X4s      X6s      Against
Min. : 1.00  Length:106  Min. : 50.00  Min. :14.00  Min. : 1.000
1st Qu.: 27.25  Class :character 1st Qu.: 54.00  1st Qu.:27.00  1st Qu.: 4.000
Median : 53.50  Mode  :character  Median : 62.50  Median :32.00  Median : 5.000
Mean   : 53.50                Mean : 67.93  Mean :31.87  Mean : 5.679
3rd Qu.: 79.75                3rd Qu.:37.00  3rd Qu.: 7.000
Max.   :106.00                Max. :128.00  Max. :48.00  Max. :15.000

      X6s      Against      Venue      Match.Date
Min. : 0.000  Length:106  Length:106  Length:106
1st Qu.: 2.000  Class :character  Class :character  Class :character
Median : 3.000  Mode  :character  Mode  :character  Mode  :character
Mean   : 3.755
3rd Qu.: 5.000
Max.   :11.000

> str(Fastest.Fifties)
'data.frame': 106 obs. of 9 variables:
 $ POS : int 1 2 3 4 5 6 7 8 9 10 ...
 $ Player : chr "KL Rahul" "Kane Williamson" "Suresh Raina" "KL Rahul" ...
```

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The screenshot shows the RStudio environment with the following components:

- Source:** Contains the R script code for data analysis.
- Console:** Displays the output of the R commands.
- Environment:** Shows the loaded datasets: `Fastest.Fifties` (106 obs. of 9 variables) and `Fastest.Fiftie...` (107 obs. of 9 variables).
- Files:** Lists the files in the current directory, including `.Rhistory`, `BackgroundShaker.cs`, `Custom Office Templates`, `desktop.ini`, `example.html`, `fuel_sales.csv`, `GIS DataBase`, `IISExpress`, `My Music`, `My Pictures`, `My Videos`, `My Web Sites`, and `R`.

Console Output:

```
R - R 4.1.2 ~\...
> str(Fastest.Fifties)
'data.frame': 106 obs. of 9 variables:
 $ POS : int 1 2 3 4 5 6 7 8 9 10 ...
 $ Player : chr "KL Rahul" "Ishan Kishan" "Sunil Narine" "Jos Buttler" ...
 $ Runs : int 51 62 50 67 56 66 63 51 50 50 ...
 $ BF : int 14 17 17 18 21 22 22 22 22 22 ...
 $ X4s : int 6 5 4 4 2 2 2 5 5 ...
 $ X6s : int 4 6 5 7 5 7 4 5 3 3 ...
 $ Against : chr "dc" "KKR" "RCB" "dc" ...
 $ Venue : chr "IS Bindra stadium" "Eden Gardens" "Eden Gardens" "Arun Jaitley Stadium" ...
 $ Match.Date: chr "08 April 2018" "09 May 2018" "08 April 2018" "02 May 2018" ...
> cat('Dimensions (rows, columns): ', dim(Fastest.Fifties), "\n")
dimensions (rows, columns): 106 9
> dim(Fastest.Fifties)
[1] 106 9
> tail(Fastest.Fifties)
  POS Player Runs BF X4s X6s Against
101 101 Chris Lynn 62 42 7 1 RCB
102 102 Kane Williamson 50 43 4 1 KKR
103 103 KL Rahul 84 44 7 3 RR
104 104 Suresh Raina 61 45 4 2 PBKS
105 105 KL Rahul 95 48 11 2 RR
106 106 Manish Pandey 54 48 3 1 PBKS

  Venue Match.Date
101 M. Chinnaswamy Stadium 29 April 2018
102 Eden Gardens 14 April 2018
103 Holkar Cricket Stadium 06 May 2018
104 Maharashtra Cricket Association's International Stadium 20 May 2018
105 Sawai Mansingh Stadium 08 May 2018
106 Rajiv Gandhi Intl. Cricket Stadium 26 April 2018
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```
R - R 4.1.2 ~\...
$ POS : int 1 2 3 4 5 6 7 8 9 10 ...
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$ Runs : int 51 62 50 67 56 66 63 51 50 50 ...
$ BF : int 14 17 17 18 21 22 22 22 22 22 ...
$ X4s : int 6 5 4 4 2 2 2 5 5 ...
$ X6s : int 4 6 5 7 5 7 4 5 3 3 ...
$ Against : chr "dc" "KKR" "RCB" "dc" ...
$ Venue : chr "IS Bindra stadium" "Eden Gardens" "Eden Gardens" "Arun Jaitley Stadium" ...
$ Match.Date: chr "08 April 2018" "09 May 2018" "08 April 2018" "02 May 2018" ...
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101 101 Chris Lynn 62 42 7 1 RCB
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> head(Fastest.Fifties)
  POS Player Runs BF X4s X6s Against Venue Match.Date
1 1 KL Rahul 51 14 6 4 DC IS Bindra Stadium 08 April 2018
2 2 Ishan Kishan 62 17 5 6 KKR Eden gardens 09 May 2018
3 3 Sunil Narine 50 17 4 5 RCB Eden gardens 08 April 2018
4 4 Jos Buttler 67 18 4 7 DC Arun Jaitley Stadium 02 May 2018
5 5 Sam Billings 56 21 2 5 KKR chidambaram 10 April 2018
```

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