

## Lab-3

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### 1. import dataset

```
Type 'demo()' for some demos, 'help()' for on-line help, or  
'help.start()' for an HTML browser interface to help.  
Type 'q()' to quit R.  
  
> seattleweather_1948.2017 <- read.csv("C:/Users/JAYANTH REDDY/Downloads/seattleweather_1948-2017.csv")  
> view(seattleweather_1948.2017)  
> view(seattleweather_1948.2017)
```

seattleWeather_1948.2017 x						
Filter						
	DATE	PRCP	TMAX	TMIN	RAIN	
1	1948-01-01	0.47	51	42	TRUE	
2	1948-01-02	0.59	45	36	TRUE	
3	1948-01-03	0.42	45	35	TRUE	
4	1948-01-04	0.31	45	34	TRUE	
5	1948-01-05	0.17	45	32	TRUE	
6	1948-01-06	0.44	48	39	TRUE	
7	1948-01-07	0.41	50	40	TRUE	
8	1948-01-08	0.04	48	35	TRUE	
9	1948-01-09	0.12	50	31	TRUE	
10	1948-01-10	0.74	43	34	TRUE	
11	1948-01-11	0.01	42	32	TRUE	
12	1948-01-12	0.00	41	26	FALSE	
13	1948-01-13	0.00	45	29	FALSE	
14	1948-01-14	0.00	38	26	FALSE	
15	1948-01-15	0.00	34	31	FALSE	

Showing 1 to 16 of 25,551 entries, 5 total columns

### 2. Dimensions of dataset

```
> dim(seattleweather_1948.2017 )  
[1] 25551      5  
> |
```

### 3. Top view of data

```
> head(seattleweather_1948.2017)  
  DATE PRCP TMAX TMIN RAIN  
1 1948-01-01 0.47  51  42 TRUE  
2 1948-01-02 0.59  45  36 TRUE  
3 1948-01-03 0.42  45  35 TRUE  
4 1948-01-04 0.31  45  34 TRUE  
5 1948-01-05 0.17  45  32 TRUE  
6 1948-01-06 0.44  48  39 TRUE  
>
```

```
4. seattleWeather_1948.2017[  
  c(which(is.na(seattleWeather_1948.2017$RAIN))),]
```

```
5. > dim(seattleWeather_1948.2017)
```

```

Error: unexpected symbol in:
> seattleweather_1948.20171 <- seattleweather_1948.2017[-c(which(is.na(seattleweather_1948.2017$RAIN))),]
> dim(seattleweather_1948.20171)
[1] 25548      5
> |

```

## 6. Loading necessary libraries

```

> library(caret)
Loading required package: ggplot2
Need help? Try stackoverflow: https://stackoverflow.com/tags/ggplot2
Loading required package: lattice
Warning message:
package 'caret' was built under R version 4.1.3
> |

```

```

package 'caret' was built under R version 4.1.3
> index <- createDataPartition( seattleweather_1948.20171$RAIN, p = 0.8, list = FALSE)
> # Training dataset
> seattleweather_1948.20171_train <- seattleweather_1948.20171[index,]
> dim( seattleweather_1948.20171_train)
[1] 20439      5
> view(index)
> |
> view(index)
> seattleweather_1948.20171_test <- seattleweather_1948.20171[-index,]
> dim(seattleweather_1948.20171_test)
[1] 5109      5
>

```

seattleWeather_1948.2017		index	
Resample1			
1	1		
2	2		
3	4		
4	5		
5	7		
6	8		
7	9		
8	10		
9	11		
10	12		
11	13		
12	14		
13	15		
14	16		
15	17		

Showing 1 to 16 of 20,439 entries, 1 total columns

```

> cat("Confusion_Matrix:")
Confusion_Matrix:
>

```

```

> cat("Accuracy of the Model:")
Accuracy of the Model:
>

```

```

> conf_matrix

```

```

sw1_pred FALSE TRUE
FALSE    9124 2066
TRUE     2595 6654

```

```
> cat("sensitivity of the Model:")
sensitivity of the Model:
>
```

- 

```
> accuracy
[1] 0.7719556
```

- 

```
Error: object 'conf_matrix' not found
> cat("specificity of the Model:")
specificity of the Model:
> |
```

- 

```
all arguments must have the same length
> cat("Confusion_Matrix_test_val:")
Confusion_Matrix_test_val:
```

- 

```
> |
> set.seed(4400)
> accuracy_val<-(conf_matrix_val[1,1]+conf_matrix_val[2,2])/(sum(conf_matrix_val))
Error: object 'conf_matrix_val' not found
> cat("Accuracy of the Model_test_val:")
Accuracy of the Model_test_val:
>
```

-