

Lab Test #1 (Based on R)

1. Write a program in R to find prime number within a range. Input number for starting range: 1

Input number for ending range: 100

The prime numbers between 1 and 100 are:

2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79

83 89 97 The total number of prime numbers between 1 to 100 is:
25

2. Create the 10*10 identity matrix and add it to another matrix of same dimension. Print the result of multiplication, subtraction in R.

3. Write R script to create data frame "Emp" with fields of emp_id, emp_name, salary, and start_date:

```
emp_id = c(1:5)
```

```
emp_name = c("A","B","C","D","E")
```

```
salary = c(623.3,515.2,611.0,729.0,843.25)
```

```
start_date = as.Date(c("2012-01-01", "2013-09-23", "2014-11-15",  
"2014-05- 11", "2015-03-27")),
```

```
# Print the structure of data frame.
```

```
# Extract emp_name and salary columns.
```

4. In the following real-world data (airquality), we have considered few observations (Obs) and attributes.

	Ozone	Solar.R	Wind	Temp	Month	Day
1	41	190	7.4	67	5	1
2	36	118	8.0	72	5	2
3	12	149	12.6	74	5	3
4	18	313	11.5	62	5	4
5	NA	NA	14.3	56	5	5
6	28	NA	14.9	66	5	6
7	23	299	8.6	65	5	7
8	19	99	13.8	59	5	8
9	8	19	20.1	61	5	9

- Write R syntax to print number of columns and rows in the data
- Write R syntax to print all odd indexed rows for given data.
- Write R syntax to print second row and second last row for given data.
- Write R syntax to print even and odd index column for given data.

5. Consider the data set “airquality” (mentioned in Q. 4) in R. • Write a command to draw a boxplot at the column as ozone.