Final practical

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Branch: BE- CSE **Section/Group: CSE-11 'B'**
Semester: 5 **Date of Performance: 29/11/2021**
Subject Name: AIML Lab **Subject Code: CSP - 309**

1. **Aim/Overview of the practical:**
   To create and manipulate Data Frames using **data.frame()** function.

2. **Which logistics used:**
   Software: R-Studio

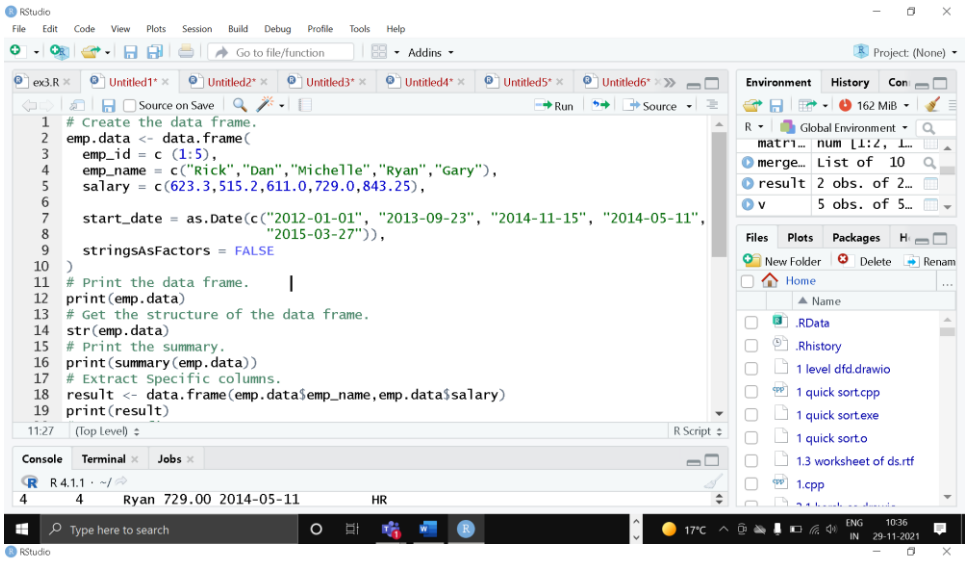
3. **Code:**

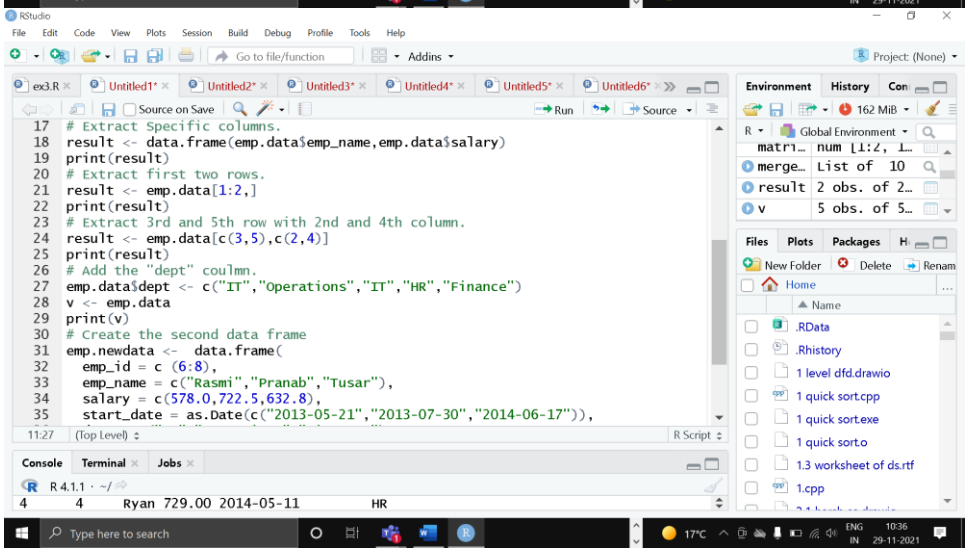
```
# Create the data frame.
 emp.data <- data.frame(
emp_id = c (1:5),
emp_name = c("Rick","Dan","Michelle","Ryan","Gary"),
 salary = c(623.3,515.2,611.0,729.0,843.25),

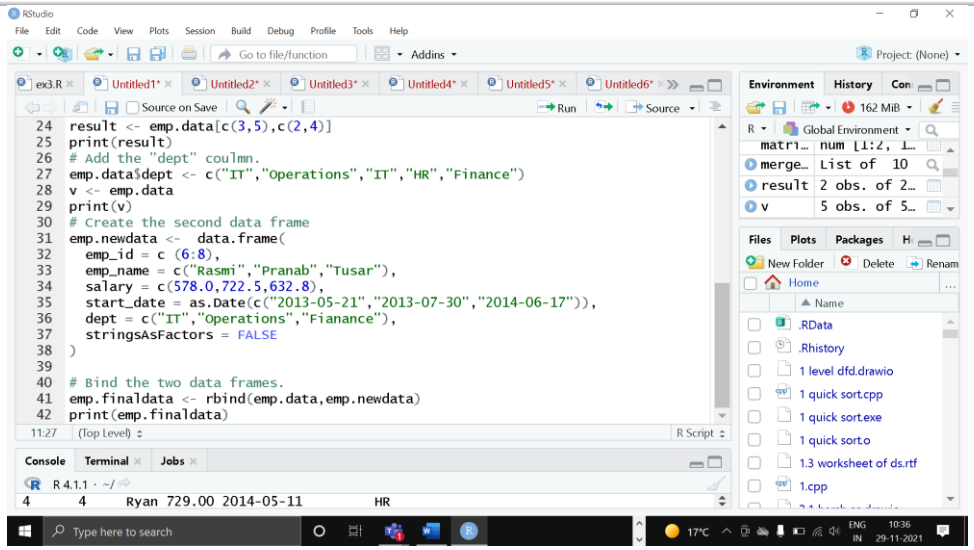
  start_date = as.Date(c("2012-01-01", "2013-09-23", "2014-11-15", "2014-05-11",
                "2015-03-27")),
stringsAsFactors = FALSE
 )
# Print the data frame.
print(emp.data)
# Get the structure of the data frame.
str(emp.data)
# Print the summary.
 print(summary(emp.data))
 # Extract Specific columns.
 result <- data.frame(emp.data$emp_name,emp.data$salary)
 print(result)
# Extract first two rows.
 result <- emp.data[1:2,]
  print(result)
 # Extract 3rd and 5th row with 2nd and 4th column.
 result <- emp.data[c(3,5),c(2,4)]
  print(result)
   #Add the "dept" coulmn.
   emp.data$dept <- c("IT","Operations","IT","HR","Finance")
   v <- emp.data
   print(v)
```

```
# Create the second data frame
emp.newdata <-     data.frame(
emp_id = c (6:8),
 emp_name = c("Rasmi","Pranab","Tusar"),
 salary = c(578.0,722.5,632.8),
 start_date = as.Date(c("2013-05-21","2013-07-30","2014-06-17")),
dept = c("IT","Operations","Fianance"),
stringsAsFactors = FALSE
 )

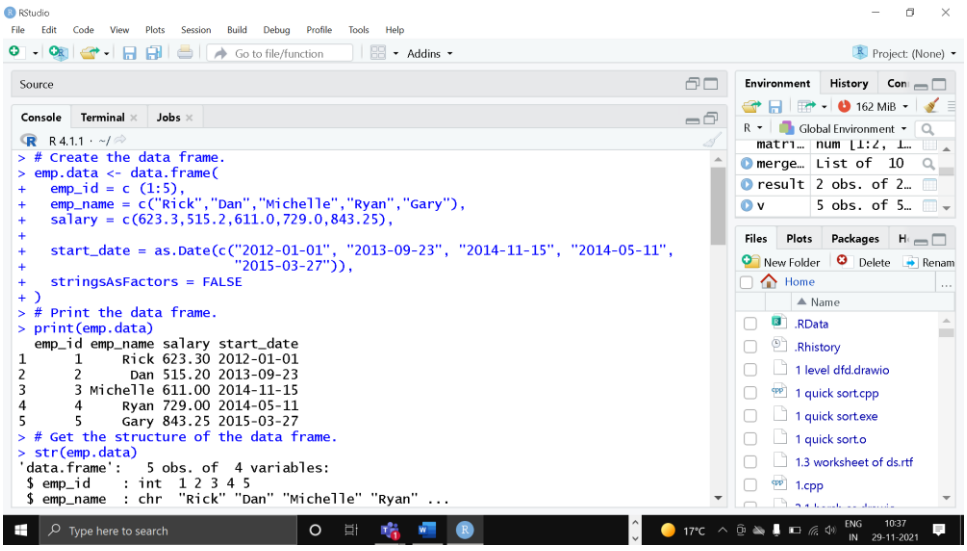
 # Bind the two data frames.
emp.finaldata <- rbind(emp.data,emp.newdata)
print(emp.finaldata)
```

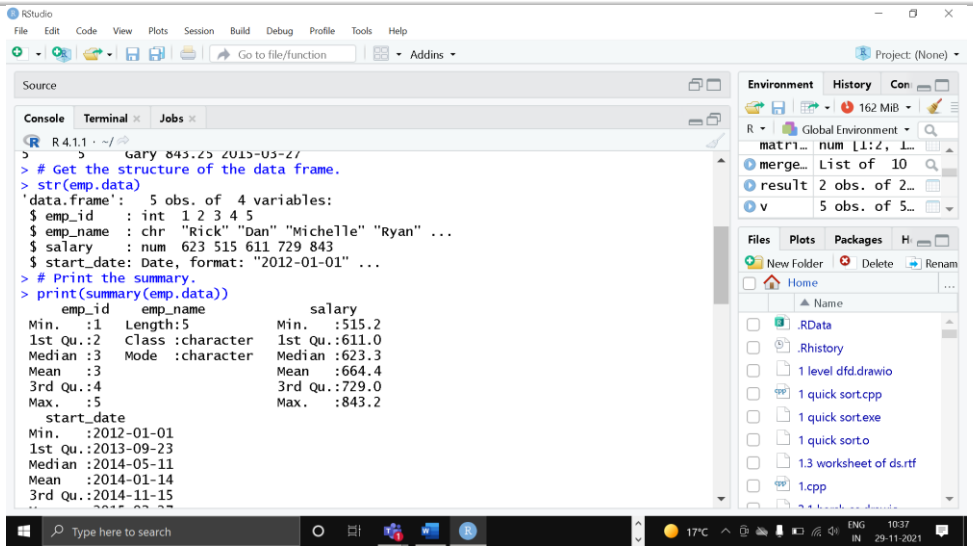




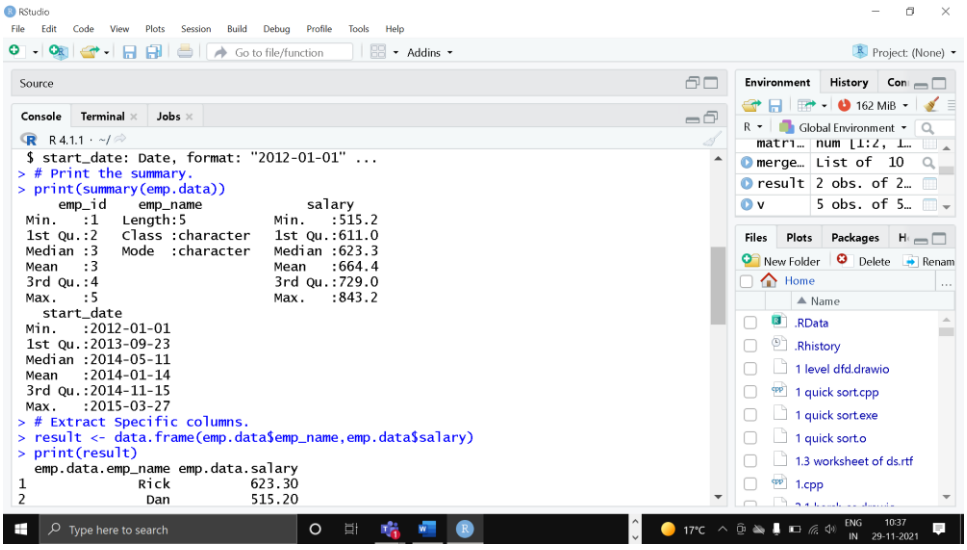

result <- emp.data[c(3,5),c(2,4)]
print(result)
# Add the "dept" coulmn.
emp.data$dept <- c("IT","Operations","IT","HR","Finance")
v <- emp.data
print(v)
# Create the second data frame
emp.newdata <- data.frame(
emp_id = c (6:8),
emp_name = c("Rasmi","Pranab","Tusar"),
salary = c(578.0,722.5,632.8),
start_date = as.Date(c("2013-05-21","2013-07-30","2014-06-17")),
dept = c("IT","Operations","Fianance"),
stringsAsFactors = FALSE
)
# Bind the two data frames.
emp.finaldata <- rbind(emp.data,emp.newdata)
print(emp.finaldata)
4 4 Ryan 729.00 2014-05-11 HR

Output:

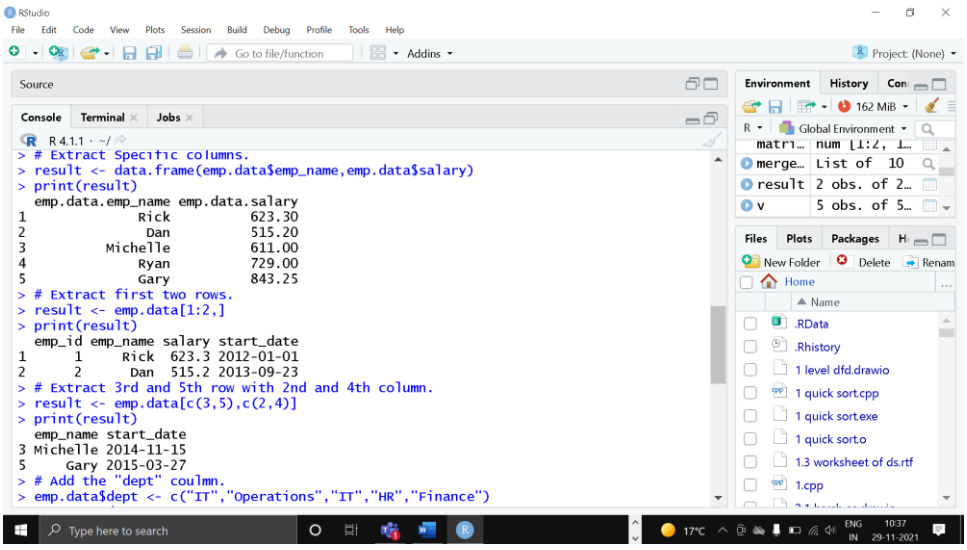

> # Create the data frame.
> emp.data <- data.frame(
+ emp_id = c (1:5),
+ emp_name = c("Rick","Dan","Michelle","Ryan","Gary"),
+ salary = c(623.3,515.2,611.0,729.0,843.25),
+ start_date = as.Date(c("2012-01-01", "2013-09-23", "2014-11-15", "2014-05-11", "2015-03-27")),
+ stringsAsFactors = FALSE
+)
> # Print the data frame.
> print(emp.data)
emp_id emp_name salary start_date
1 1 Rick 623.30 2012-01-01
2 2 Dan 515.20 2013-09-23
3 3 Michelle 611.00 2014-11-15
4 4 Ryan 729.00 2014-05-11
5 5 Gary 843.25 2015-03-27
> # Get the structure of the data frame.
> str(emp.data)
'data.frame': 5 obs. of 4 variables:
$ emp_id : int 1 2 3 4 5
$ emp_name : chr "Rick" "Dan" "Michelle" "Ryan" ...



```
> # Get the structure of the data frame.
> str(emp.data)
'data.frame':   5 obs. of  4 variables:
 $ emp_id    : int  1 2 3 4 5
 $ emp_name  : chr  "Rick" "Dan" "Michelle" "Ryan" ...
 $ salary    : num  623 515 611 729 843
 $ start_date: Date, format: "2012-01-01" ...
> # Print the summary.
> print(summary(emp.data))
     emp_id    emp_name            salary
 Min.   :1   Length:5           Min.   :515.2
 1st Qu.:2   Class :character   1st Qu.:611.0
 Median :3   Mode  :character   Median :623.3
 Mean   :3                      Mean   :664.4
 3rd Qu.:4                      3rd Qu.:729.0
 Max.   :5                      Max.   :843.2
   start_date
 Min.   :2012-01-01
 1st Qu.:2013-09-23
 Median :2014-05-11
 Mean   :2014-01-14
 3rd Qu.:2014-11-15
```



```
 $ start_date: Date, format: "2012-01-01" ...
> # Print the summary.
> print(summary(emp.data))
     emp_id    emp_name            salary
 Min.   :1   Length:5           Min.   :515.2
 1st Qu.:2   Class :character   1st Qu.:611.0
 Median :3   Mode  :character   Median :623.3
 Mean   :3                      Mean   :664.4
 3rd Qu.:4                      3rd Qu.:729.0
 Max.   :5                      Max.   :843.2
   start_date
 Min.   :2012-01-01
 1st Qu.:2013-09-23
 Median :2014-05-11
 Mean   :2014-01-14
 3rd Qu.:2014-11-15
 Max.   :2015-03-27
> # Extract Specific columns.
> result <- data.frame(emp.data$emp_name,emp.data$salary)
> print(result)
  emp.data.emp_name emp.data.salary
1              Rick          623.30
2               Dan          515.20
```



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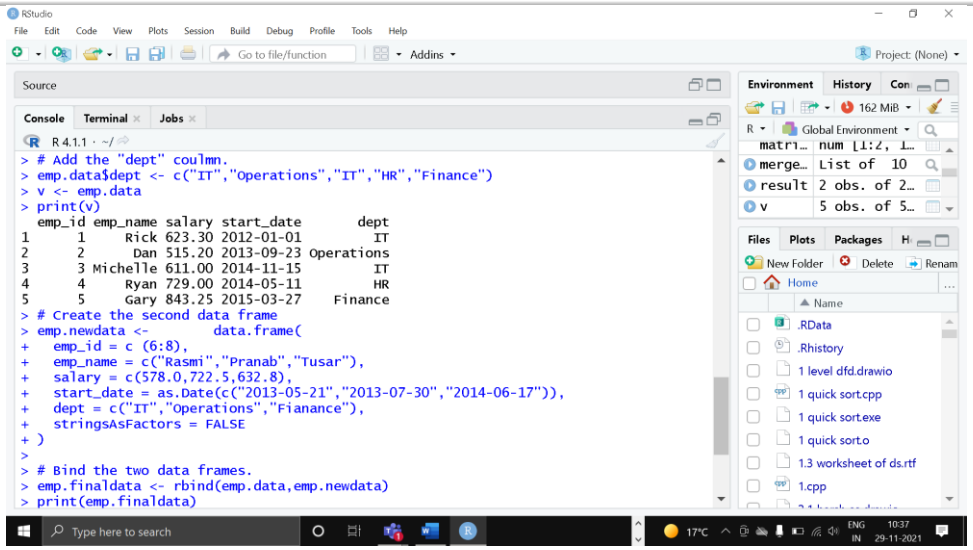
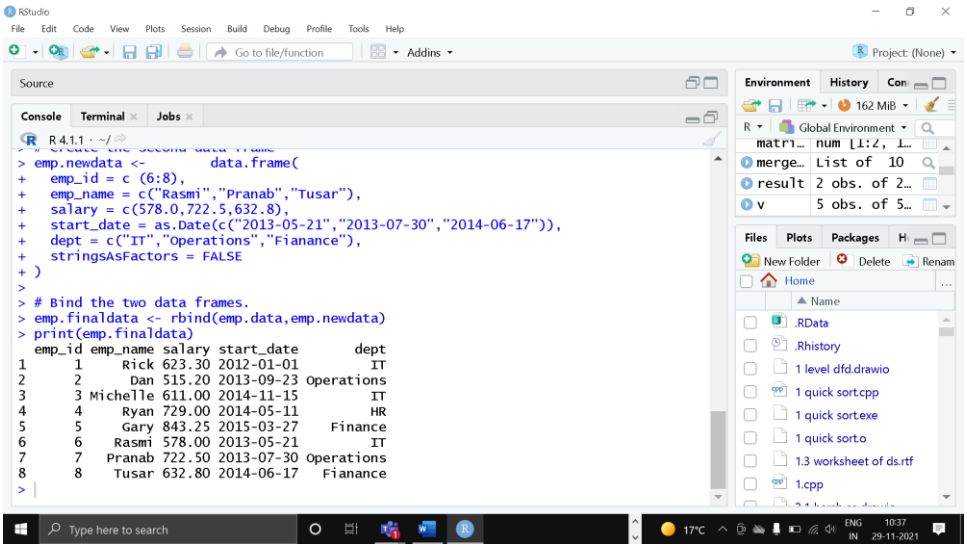
> # Extract Specific columns.
> result <- data.frame(emp.data$emp_name,emp.data$salary)
> print(result)
  emp.data.emp_name emp.data.salary
1              Rick          623.30
2               Dan          515.20
3          Michelle          611.00
4              Ryan          729.00
5              Gary          843.25
> # Extract first two rows.
> result <- emp.data[1:2,]
> print(result)
  emp_id emp_name salary start_date
1      1     Rick  623.3 2012-01-01
2      2      Dan  515.2 2013-09-23
> # Extract 3rd and 5th row with 2nd and 4th column.
> result <- emp.data[c(3,5),c(2,4)]
> print(result)
  emp_name start_date
3 Michelle 2014-11-15
5     Gary 2015-03-27
> # Add the "dept" coulmn.
> emp.data$dept <- c("IT","Operations","IT","HR","Finance")
```





Learning outcomes (What I have learnt):

1. I have learnt about the R studio.
2. I have learnt about the R programming language.
3. I have learnt about vectors in R

Evaluation Grid

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			

2.			
3.			