Name- Ayush Mukherjee Roll No.- 2028014

Class- CSSE1

1. Create a CSV file as Student.csv having 5 columns as rollno, name, branch, percentage and DOA with 10 records. Now read the Student.csv file to the R-workspace and display that.

# Code

setwd("C:/Users/KIIT/Desktop/KIIT Classes/5th sem/AP Lab/lab7/Student\_csv") data=read.csv("Student.csv")

print(data)

# Output

rollno name branch percentage DOA 1 201 Abhinav IT 87.3 2022-09-13

2 202 Alisha EEE 82.4 2017-04-08

3 203 Amrita CSSE 90.4 2013-07-15

4 204 Aman CSE 89.5 2018-08-26

5 205 Koustab EEE 78.2 2020-10-13

6 206 Ayush IT 91.3 2021-01-30

7 207 Atri CSE 96.4 2017-05-13

8 208 Subhrani CSSE 98.4 2022-12-06

9 209 Bratasheel CSE 78.1 2016-05-13

10 210 Pratay CSE 86.7 2019-08-19

1. Retrieve and display the details of that student who has maximum percentage.

# Code

setwd("C:/Users/KIIT/Desktop/KIIT Classes/5th sem/AP Lab/lab7/Student\_csv") data=read.csv("Student.csv")

cat("Student with maximum percentage:",max(data$percentage))

# Output

Student with maximum percentage: 98.4

1. Retrieve and display the details of those students who are studying in IT or CSE branch.

# Code

setwd("C:/Users/KIIT/Desktop/KIIT Classes/5th sem/AP Lab/lab7/Student\_csv") data=read.csv("Student.csv")

info=subset(data,branch=="IT" | branch=="CSE") cat("students in IT or CSE branch:\n")

print(info)

# Output

students in IT or CSE branch:

rollno name branch percentage DOA

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | 201 | Abhinav | IT | 87.3 2022-09-13 |
| 4 | 204 | Aman | CSE | 89.5 2018-08-26 |
| 6 | 206 | Ayush | IT | 91.3 2021-01-30 |

7 207 Atri CSE 96.4 2017-05-13

9 209 Bratasheel CSE 78.1 2016-05-13

10 210 Pratay CSE 86.7 2019-08-19

1. Retrieve and display the details of those CSE students whose percentage is more than or equal to 80.

# Code

setwd("C:/Users/KIIT/Desktop/KIIT Classes/5th sem/AP Lab/lab7/Student\_csv") data=read.csv("Student.csv")

cat("CSE students having percentage >= 80:\n") print(subset(data,branch=="CSE" & percentage>=80))

# Output

CSE students having percentage >= 80:

|  |  |
| --- | --- |
| rollno name branch | percentage DOA |
| 4 204 Aman CSE | 89.5 2018-08-26 |
| 7 207 Atri CSE | 96.4 2017-05-13 |
| 10 210 Pratay CSE | 86.7 2019-08-19 |

1. Retrieve and display the details of those students who are admitted on or after 1st may 2017 (Lateral Entries).

# Code

setwd("C:/Users/KIIT/Desktop/KIIT Classes/5th sem/AP Lab/lab7/Student\_csv") data=read.csv("Student.csv")

cat("students admitted on or after 1st may 2017:\n") print(subset(data,as.Date(DOA)>as.Date("2017-05-01")))

# Output

students admitted on or after 1st may 2017:

rollno name branch percentage DOA

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | 201 | Abhinav | IT | 87.3 2022-09-13 |
| 4 | 204 | Aman | CSE | 89.5 2018-08-26 |
| 5 | 205 | Koustab | EEE | 78.2 2020-10-13 |
| 6 | 206 | Ayush | IT | 91.3 2021-01-30 |

7 207 Atri CSE 96.4 2017-05-13

8 208 Subhrani CSSE 98.4 2022-12-06

10 210 Pratay CSE 86.7 2019-08-19

1. Create an Excel file as Student.xlsx, where sheet1 contains rollno, name, branch, percentage and sheet2 contains name, DOA with 10 records. Now install and load xlsx package to the R workspace.

**Code** #install.packages("xlsx") library("xlsx")

# Output

Package installed.

1. Read the details of sheet1 from Student.xlsx to the R workspace and display that, then read from the sheet2 and display that.

# Code

setwd("C:/Users/KIIT/Desktop/KIIT Classes/5th sem/AP Lab/lab7/Student\_xlsx") library("xlsx")

cat("\nSheet 1:\n") data1=read.xlsx("Student.xlsx", sheetIndex = 1) print(data1)

cat("\nSheet 2:\n") data2=read.xlsx("Student.xlsx", sheetIndex = 2) print(data2)

# Output

Sheet 1:

rollno name branch percentage

1. 201 Abhinav IT 87.3
2. 202 Alisha EEE 82.4
3. 203 Amrita CSSE 90.4 4 204 Aman CSE 89.5

5 205 Koustab EEE 78.2 6 206 Ayush IT 91.3

1. 207 Atri CSE 96.4
2. 208 Subhrani CSSE 98.4
3. 209 Bratasheel CSE 78.1
4. 210 Pratay CSE 86.7

Sheet 2:

name DOA

1 Abhinav 2022-09-13

2 Alisha 2017-04-08

3 Amrita 2013-07-15

4 Aman 2018-08-26

5 Koustab 2020-10-13

6 Ayush 2021-01-30

7 Atri 2017-05-13

8 Subhrani 2022-12-06

9 Bratasheel 2016-05-13

10 Pratay 2019-08-19

1. Write the commands to merge by reading the data set of two sheets of Student.xlsx to the R workspace and display that.

# Code

setwd("C:/Users/KIIT/Desktop/KIIT Classes/5th sem/AP Lab/lab7/Student\_xlsx") library("xlsx")

data1=read.xlsx("Student.xlsx",sheetIndex=1) data2=read.xlsx("Student.xlsx",sheetIndex=2) data=merge(data1,data2)

cat("\nMerged data set:\n")

print(data)

# Output

Merged data set:

name rollno branch percentage DOA 1 Abhinav 201 IT 87.3 2022-09-13

2 Alisha 202 EEE 82.4 2017-04-08

3 Aman 204 CSE 89.5 2018-08-26

4 Amrita 203 CSSE 90.4 2013-07-15

5 Atri 207 CSE 96.4 2017-05-13

6 Ayush 206 IT 91.3 2021-01-30

7 Bratasheel 209 CSE 78.1 2016-05-13

8 Koustab 205 EEE 78.2 2020-10-13

9 Pratay 210 CSE 86.7 2019-08-19

10 Subhrani 208 CSSE 98.4 2022-12-06

1. Write the merge data to the new Excel file.

# Code

setwd("C:/Users/KIIT/Desktop/KIIT Classes/5th sem/AP Lab/lab7/Student\_xlsx") library("xlsx")

data1=read.xlsx("Student.xlsx",sheetIndex=1) data2=read.xlsx("Student.xlsx",sheetIndex=2) data=merge(data1,data2)

write.xlsx(data, file="C:/Users/KIIT/Desktop/KIIT Classes/5th sem/AP Lab/lab7/Student\_xlsx/new\_Student.xlsx", sheetName="Merged Values")

cat("New Excel file created.")

# Output

New Excel file created.

1. Write the merge data to the new Excel file by removing NA.

# Code

setwd("C:/Users/KIIT/Desktop/KIIT Classes/5th sem/AP Lab/lab7/Student\_xlsx") library("xlsx")

data1=read.xlsx("StudentNA.xlsx",sheetIndex=1) data2=read.xlsx("StudentNA.xlsx",sheetIndex=2) cat("\nData before omitting NA values:\n") data=merge(data1,data2)

print(data)

cat("\nData after omitting NA values:\n") data=na.omit(data)

print(data)

write.xlsx(data, file="C:/Users/KIIT/Desktop/KIIT Classes/5th sem/AP Lab/lab7/Student\_xlsx/Student\_wout\_NA.xlsx", sheetName="Without NA Values")

cat("New Excel file created.")

# Output

Data before omitting NA values:

name rollno branch percentage DOA 1 Abhinav 201 IT 87.3 2022-09-13

2 Alisha 202 EEE NA <NA>

3 Aman 204 CSE 89.5 2018-08-26

4 Amrita 203 CSSE 90.4 2013-07-15

5 Atri 207 CSE 96.4 2017-05-13

6 Ayush 206 <NA> NA 2021-01-30

7 Bratasheel 209 CSE NA 2016-05-13

8 Koustab 205 EEE 78.2 2020-10-13

9 Pratay 210 CSE 86.7 <NA>

10 Subhrani 208 CSSE 98.4 2022-12-06

Data after omitting NA values:

name rollno branch percentage DOA

|  |  |  |
| --- | --- | --- |
| 1 | Abhinav 201 IT | 87.3 2022-09-13 |
| 3 | Aman 204 CSE | 89.5 2018-08-26 |
| 4 | Amrita 203 CSSE | 90.4 2013-07-15 |
| 5 | Atri 207 CSE | 96.4 2017-05-13 |
| 8 Koustab 205 EEE | | 78.2 2020-10-13 |
| 10 Subhrani 208 CSSE  New Excel file created. | | 98.4 2022-12-06 |