

#Creation Of DataFrame

```
stud.data<- data.frame(  
  student_id = c (1:5),  
  student_name = c("Shubham","Arpita","Nishka","Gunjan","Sumit"),  
  class = c("MBA","MCA","MBA","IMCA","MCA"),  
  roll_no=c(20,45,78,12,50)  
)  
print(stud.data)
```

#Operations on DataFrame:-

1)Extracting specific columns from a data frame

```
final <- data.frame(stud.data$student_id,stud.data$class)  
print(final)
```

2)Modification of DataFrame:

#Adding row in the data frame

```
x <- list(6,"Vaishali","IMCA",15)  
rbind(stud.data,x)
```

#Adding column in the data frame

```
y <- c("Moradabad","Lucknow","Etah","Sambhal","Khurja")  
cbind(stud.data,city=y)
```

#Delete rows from data frame

```
stud.data<-stud.data[-1,]  
print(stud.data)
```

#Delete column from the data frame

```
stud.data$roll_no<-NULL  
print(stud.data)
```

OUTPUT:-

```
#Creation Of DataFrame  
> stud.data<- data.frame(  
+   student_id = c (1:5),  
+   student_name = c("Shubham","Arpita","Nishka","Gunjan","Sumit"),  
+   class = c("MBA","MCA","MBA","IMCA","MCA"),  
+   roll_no=c(20,45,78,12,50)  
+ )  
> print(stud.data)  
  student_id student_name class roll_no  
1         1   Shubham   MBA     20  
2         2     Arpita   MCA     45  
3         3     Nishka   MBA     78  
4         4     Gunjan IMCA     12  
5         5      Sumit   MCA     50  
> #operations on DataFrame:-  
> #Extracting specific columns from a data frame  
> final <- data.frame(stud.data$student_id,stud.data$class)  
> print(final)  
stud.data.student_id stud.data.class
```

```

1      1      MBA
2      2      MCA
3      3      MBA
4      4      IMCA
5      5      MCA
> #Modification of DataFrame
> #Adding row in the data frame
> x <- list(6,"Vaishali","IMCA",15)
> rbind(stud.data,x)
  student_id student_name class roll_no
1      1    Shubham  MBA    20
2      2     Arpita  MCA    45
3      3     Nishka  MBA    78
4      4     Gunjan  IMCA    12
5      5      Sumit  MCA    50
6      6   Vaishali  IMCA    15
> #Adding column in the data frame
> y <- c("Moradabad","Lucknow","Etah","Sambhal","Khurja")
> cbind(stud.data,city=y)
  student_id student_name class roll_no  city
1      1    Shubham  MBA    20 Moradabad
2      2     Arpita  MCA    45  Lucknow
3      3     Nishka  MBA    78   Etah
4      4     Gunjan  IMCA    12 Sambhal
5      5      Sumit  MCA    50  Khurja
> #Delete rows from data frame
> stud.data<-stud.data[-1,]
> print(stud.data)
  student_id student_name class roll_no
2      2     Arpita  MCA    45
3      3     Nishka  MBA    78
4      4     Gunjan  IMCA    12
5      5      Sumit  MCA    50
> #Delete column from the data frame
> stud.data$roll_no<-NULL
> print(stud.data)
  student_id student_name class
2      2     Arpita  MCA
3      3     Nishka  MBA
4      4     Gunjan  IMCA
5      5      Sumit  MCA
>

```