

Employee.R

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```
#You are required to write the appropriate R commands/  
#statements to read the file in data frame 'dsalary' and answer the  
#following:  
  
#Find out the number of observations and variables in the given dataset.  
  
#Calculate the average salary of all faculty members, male and female  
#faculty members separately, and rank-wise faculty members  
  
#Count the number of male Asst. Prof and female Associate professors.  
  
#Display first two columns of second row.  
  
#Display the years of service of 2nd entry in the data set.  
  
#Display YrsSincePhd and Yrs of Service of all the teachers.  
  
#Print the highest salary drawing male Associate Professor with maximum year of  
#services  
  
#Display the Rank of the teacher whose salary is more than 150.  
  
#Add a new column 'special-allowance' which is 5% of the salary.  
  
#Increase the salary of male prof by 5% and female prof by 10% and then compare  
#the average salary between these two.  
  
#Create a vector which contains the average salary of each rank.  
  
dsalary=read.csv("Employee.csv",stringsAsFactors = FALSE)  
print("DATASET")
```

```
## [1] "DATASET"
```

```
print(dsalary)
```

##	Rank	YrsSincePhd	YrsOfService	Gender	Salary
## 1	AstProf	3	7	M	85
## 2	AstProf	8	12	F	95
## 3	AstProf	2	5	F	80
## 4	AsctProf	9	18	M	150
## 5	Prof	20	25	M	200
## 6	Prof	22	29	F	250
## 7	AsctProf	10	19	F	150
## 8	AsctProf	10	19	F	200
## 9	AsctProf	11	19	M	210
## 10	Prof	20	25	F	200
## 11	Prof	21	28	M	230

```
print("number of observations")
```

```
## [1] "number of observations"
```

```
print(nrow(dsalary))
```

```
## [1] 11
```

```
print("number of variables")
```

```
## [1] "number of variables"
```

```
print(ncol(dsalary))
```

```
## [1] 5
```

```
print("The average salary of all faculty members")
```

```
## [1] "The average salary of all faculty members"
```

```
print(mean(dsalary$Salary))
```

```
## [1] 168.1818
```

```
print("The average salary of all faculty members male and female seperatly")
```

```
## [1] "The average salary of all faculty members male and female seperatly"
```

```
print(aggregate(Salary~Gender,dsalary,mean))
```

```
## Gender Salary
## 1      F  162.5
## 2      M  175.0
```

```
print("The average salary rank-wise faculty members")
```

```
## [1] "The average salary rank-wise faculty members"
```

```
print(aggregate(Salary~Rank,dsalary,mean))
```

```
##      Rank      Salary
## 1 AsctProf 166.66667
## 2 AsctProf 210.00000
## 3 AsctProf  86.66667
## 4 Prof    216.66667
## 5 Prof    230.00000
```

```
attach(dsalary)
```

```
print("No. of male Asst. Prof")
```

```
## [1] "No. of male Asst. Prof"
```

```
d=which((dsalary$Gender=="M") & (dsalary$Rank=="AsctProf"))
print(length(d))
```

```
## [1] 1
```

```
print("No. of female Asst. Prof")
```

```
## [1] "No. of female Asst. Prof"
```

```
d=which((dsalary$Gender=="F") & (dsalary$Rank=="AsctProf"))
print(length(d))
```

```
## [1] 2
```

```
print("first two columns of second row")
```

```
## [1] "first two columns of second row"
```

```
print(dsalary[2,1:2])
```

```
##      Rank YrsSincePhd
## 2 AsctProf           8
```

```
print("the yearsofservice of 2nd entry in the data set")
```

```
## [1] "the yearsofservice of 2nd entry in the data set"
```

```
print(dsalary[2,"YrsOfService"])
```

```
## [1] 12
```

```
print("YrsSincePhd and YrsOfService all the teachers")
```

```
## [1] "YrsSincePhd and YrsOfService all the teachers"
```

```
print(dsalary[,c("YrsSincePhd","YrsOfService")])
```

```
##      YrsSincePhd YrsOfService
## 1             3             7
## 2             8            12
## 3             2             5
## 4             9            18
## 5            20            25
## 6            22            29
## 7            10            19
## 8            10            19
## 9            11            19
## 10           20            25
## 11           21            28
```

```
print("highest salary drawing male Associate Professor with maximum year of services")
```

```
## [1] "highest salary drawing male Associate Professor with maximum year of services"
```

```
d=which( dsalary$Gender=="M" & dsalary$Rank=="AsctProf")
print(d)
```

```
## [1] 4
```

```
y=dsalary[d,"Salary"]
x=dsalary[d,"YrsOfService"]
print(x)
```

```
## [1] 18
```

```
print(y)
```

```
## [1] 150
```

```
print("Rank of the teacher whose salary is more than 150")
```

```
## [1] "Rank of the teacher whose salary is more than 150"
```

```
print(dsalary[Salary>150,"Rank"])
```

```
## [1] "Prof"      "Prof"      "AsctProf"  "AsctProf"  "Prof"
## [6] "Prof"      "
```

```
print("new column 'special-allowance' which is 5% of the salary")
```

```
## [1] "new column 'special-allowance' which is 5% of the salary"
```

```
allowance=(Salary*5)/100
dsalary=cbind(dsalary,"ALLOWANCE"=(Salary*5)/100)
print(dsalary)
```

```
##           Rank YrsSincePhd YrsOfService Gender Salary ALLOWANCE
## 1   AstProf         3           7         M      85      4.25
## 2   AstProf         8          12         F      95      4.75
## 3   AstProf         2           5         F      80      4.00
## 4   AsctProf        9          18         M     150      7.50
## 5     Prof        20          25         M     200     10.00
## 6     Prof        22          29         F     250     12.50
## 7   AsctProf        10          19         F     150      7.50
## 8   AsctProf        10          19         F     200     10.00
## 9   AsctProf        11          19         M     210     10.50
## 10    Prof        20          25         F     200     10.00
## 11    Prof        21          28         M     230     11.50
```

```
print("Increase the salary of male prof by 5% and female prof by 10%")
```

```
## [1] "Increase the salary of male prof by 5% and female prof by 10%"
```

```
m <- dsalary$Salary[which((dsalary$Gender=="M"))]
print(m)
```

```
## [1] 85 150 200 210 230
```

```
m <- m+(m*5)/100
f <- dsalary$Salary[which((dsalary$Gender=="F"))]
print(f)
```

```
## [1] 95 80 250 150 200 200
```

```
f <- f+(f*10)/100
```

```
print("Compare the average salary between above two")
```

```
## [1] "Compare the average salary between above two"
```

```
mean(f)-mean(m)
```

```
## [1] -5
```

```
print("Vector which contains the average salary of each rank")
```

```
## [1] "Vector which contains the average salary of each rank"
```

```
avg_sal=c(aggregate(Salary~Rank,dsalary,mean))  
print(avg_sal)
```

```
## $Rank  
## [1] "AsctProf" "AsctProf" "AstProf" "Prof" "Prof"  
##  
## $Salary  
## [1] 166.66667 210.00000 86.66667 216.66667 230.00000
```