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3CO9

SET – A

Ques 1:

```
EID <- c(100,200,300,400,500,600)

Name <- c("Yash","Jay","Rahul","Adarsh","Raj","Nick")

Department <- c("HR","Finance","Marketing","Business","IT","Sales")

Rank <- c(6,4,5,1,2,3)

Salary <- c(200000,100000,150000,25000,50000,75000)

Employee <- data.frame(EID,Name,Department,Rank,Salary)

Employee


Rank <- c(1,2,3,4,5,6)

Rank_title <- c("Supervisor","Manager","Sr. Supervisor","Jr. Manager","Asst. Director","Director")

Min_Salary <- c(20000,40000,65000,90000,140000,200000)

Max_Salary <- c(35000,60000,90000,115000,165000,225000)

Avg_Salary <- (Max_Salary+Min_Salary)/2

Ranks <- data.frame(Rank,Rank_title,Min_Salary,Max_Salary,Avg_Salary)

Ranks
```

```
> EID <- c(100,200,300,400,500,600)
> Name <- c("Yash","Jay","Rahul","Adarsh","Raj","Nick")
> Department <- c("HR","Finance","Marketing","Business","IT","Sales")
> Rank <- c(6,4,5,1,2,3)
> Salary <- c(200000,100000,150000,25000,50000,75000)
> Employee <- data.frame(EID,Name,Department,Rank,Salary)
> Employee
  EID   Name Department Rank Salary
1 100   Yash         HR    6 200000
2 200    Jay     Finance    4 100000
3 300  Rahul   Marketing    5 150000
4 400 Adarsh    Business    1  25000
5 500    Raj          IT    2  50000
6 600   Nick       Sales    3  75000
>
> Rank <- c(1,2,3,4,5,6)
> Rank_title <- c("Supervisor","Manager","Sr. Supervisor","Jr. Manager","Asst. Director","Director")
> Min_Salary <- c(20000,40000,65000,90000,140000,200000)
> Max_Salary <- c(35000,60000,90000,115000,165000,225000)
> Avg_Salary <- (Max_Salary+Min_Salary)/2
> Ranks <- data.frame(Rank,Rank_title,Min_Salary,Max_Salary,Avg_Salary)
> Ranks
  Rank     Rank_title Min_Salary Max_Salary Avg_Salary
1    1     Supervisor      20000      35000      27500
2    2        Manager      40000      60000      50000
3    3 Sr. Supervisor      65000      90000      77500
4    4    Jr. Manager      90000     115000     102500
5    5 Asst. Director     140000     165000     152500
6    6       Director     200000     225000     212500
> |
```

Ques 2:

cw <- c(NULL)

for(i in 1:nrow(Employee)){

    ans <- Rank_title[Employee$Rank[i]]

    cw <- append(cw,ans)

}

Employee_new <- cbind(Employee,cw)

Employee_new

Avg_Salary <- (Max_Salary+Min_Salary)/2

Avg_Salary

```
+     cw <- append(cw,ans)
+ }
> Employee_new <- cbind(Employee,cw)
> Employee_new
  EID   Name Department Rank Salary             cw
1 100   Yash         HR    6 200000       Director
2 200    Jay     Finance    4 100000    Jr. Manager
3 300  Rahul   Marketing    5 150000 Asst. Director
4 400 Adarsh    Business    1  25000     Supervisor
5 500    Raj          IT    2  50000        Manager
6 600   Nick       Sales    3  75000 Sr. Supervisor
> Avg_Salary <- (Max_Salary+Min_Salary)/2
> Avg_Salary
[1]  27500  50000  77500 102500 152500 212500
> |
```

Ques 3:

```r
for(i in 1:nrow(Ranks)){
  if(Ranks$Avg_Salary[i]>100000){
    print("Yes")
  } else{
    print("No")
  }
}
```

```
> for(i in 1:nrow(Ranks)){
+   if(Ranks$Avg_Salary[i]>100000){
+     print("Yes")
+   } else{
+     print("No")
+   }
+ }
[1] "No"
[1] "No"
[1] "No"
[1] "Yes"
[1] "Yes"
[1] "Yes"
> 
```

Ques 4:

```r
list_ranks <-
list(Ranks$Rank,Ranks$Rank_title,matrix(c(Ranks$Min_Salary,Ranks$Max_Salary),nrow=
6,ncol=2))
```

```r
list_ranks
```

```
> list_ranks <- list(Ranks$Rank,Ranks$Rank_title,matrix(c(Ranks$Min_Salary,Ranks$Max_Salary),nrow=6,ncol=2))
> list_ranks
[[1]]
[1] 1 2 3 4 5 6

[[2]]
[1] "Supervisor"     "Manager"        "Sr. Supervisor" "Jr. Manager"     "Asst. Director" "Director"

[[3]]
       [,1]   [,2]
[1,]  20000  35000
[2,]  40000  60000
[3,]  65000  90000
[4,]  90000 115000
[5,] 140000 165000
[6,] 200000 225000

> 
```

Ques 5:

list_ranks <- list_ranks <- list(Ranks$Rank,Ranks$Rank_title,Ranks$Avg_Salary)

list_ranks

```
> list_ranks <- list_ranks <- list(Ranks$Rank,Ranks$Rank_title,Ranks$Avg_Salary)
> list_ranks
[[1]]
[1] 1 2 3 4 5 6

[[2]]
[1] "Supervisor"     "Manager"        "Sr. Supervisor" "Jr. Manager"    "Asst. Director" "Director"

[[3]]
[1]  27500  50000  77500 102500 152500 212500

>
```

Ques 6:

subA <- merge(Employee,Ranks, by.x = "Rank", by.y = "Rank")

subB <- subset(subA,select = c("EID","Name","Department","Avg_Salary"))

report <- subB[order(subB$EID),]

report

```
> subA <- merge(Employee,Ranks, by.x = "Rank", by.y = "Rank")
> subB <- subset(subA,select = c("EID","Name","Department","Avg_Salary"))
> report <- subB[order(subB$EID),]
> report
  EID   Name Department Avg_Salary
6 100   Yash         HR     212500
4 200    Jay    Finance     102500
5 300  Rahul  Marketing     152500
1 400 Adarsh   Business      27500
2 500    Raj         IT      50000
3 600   Nick      Sales      77500
>
```

Ques 7:

sort_report <- Ranks[order(Ranks$Avg_Salary),]

sort_report

sort_report[sort_report$Avg_Salary<100000,]

```
> sort_report <- Ranks[order(Ranks$Avg_Salary),]
> sort_report
  Rank     Rank_title Min_Salary Max_Salary Avg_Salary
1    1     Supervisor      20000      35000      27500
2    2        Manager      40000      60000      50000
3    3 Sr. Supervisor      65000      90000      77500
4    4    Jr. Manager      90000     115000     102500
5    5 Asst. Director     140000     165000     152500
6    6       Director     200000     225000     212500
> sort_report[sort_report$Avg_Salary<100000,]
  Rank     Rank_title Min_Salary Max_Salary Avg_Salary
1    1     Supervisor      20000      35000      27500
2    2        Manager      40000      60000      50000
3    3 Sr. Supervisor      65000      90000      77500
>
```