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Task 1
Applied Statistics using R

```r
#Create a vector named sales_data with
#the following sales figures (in thousands of dollars) for the last 12
months:
sales_data<-c(45,60,35,75,80,62,48,53,69,72,40,55)
months<-c("Jan","Feb","March","Apr","May","June","July","Aug","Sep","Oct",
"Nov","Dec")

#Calculate the total annual sales by summing the elements in the
sales_data vector.
total_annual_sales<-sum(sales_data)
print(total_annual_sales)

#Compute the monthly average sales by dividing the total annual sales by
12 (the number of months).
avg_sales<-total_annual_sales/length(months)
print(avg_sales)



#Determine the month with the highest sales and the corresponding sales
figure.
#Also, find the month with the lowest sales and its sales figure
maxSalesIndex<-order(sales_data,decreasing = TRUE)[1]
maxSalesMonth<-months[maxSalesIndex]
maxSalesValue<-sales_data[maxSalesIndex]
print(maxSalesMonth)
print(maxSalesValue)

minSalesIndex<-order(sales_data)[1]
minSalesMonth<-months[minSalesIndex]
minSalesValue<-sales_data[minSalesIndex]
print(minSalesMonth)
```

```r
print(minSalesValue)


#Increase the sales figure for the third month (March) by 10%.
sales_data[3]=sales_data[3]+sales_data[3]/10
print(sales_data)

#Sort the sales_data vector in ascending order and create a new vector
named sorted_sales.
sorted_sales<-sort(sales_data)
print(sorted_sales)

#Sort the sales_data vector in descending order and create a new vector
named reverse_sorted_sales.
reverse_sorted_sales<-sort(sales_data,decreasing = TRUE)
print(reverse_sorted_sales)

#Calculate the median sales value from the sorted_sales vector.
median_sales<-median(sorted_sales)
print(median_sales)
```

Output

```r
> #Create a vector named sales_data with
> #the following sales figures (in thousands of dollars) for the last 12
months:
> sales_data<-c(45,60,35,75,80,62,48,53,69,72,40,55)
>
months<-c("Jan","Feb","March","Apr","May","June","July","Aug","Sep","Oct","Nov
","Dec")
>
> #Calculate the total annual sales by summing the elements in the sales_data
vector.
> total_annual_sales<-sum(sales_data)
> print(total_annual_sales)
[1] 694
>
> #Compute the monthly average sales by dividing the total annual sales by 12
(the number of months).
> avg_sales<-total_annual_sales/length(months)
> print(avg_sales)
```

```
[1] 57.83333
>
>
> #Determine the month with the highest sales and the corresponding sales
figure.
> #Also, find the month with the lowest sales and its sales figure
> maxSalesIndex<-order(sales_data,decreasing = TRUE)[1]
> maxSalesMonth<-months[maxSalesIndex]
> maxSalesValue<-sales_data[maxSalesIndex]
> print(maxSalesMonth)
[1] "May"
> print(maxSalesValue)
[1] 80
>
> minSalesIndex<-order(sales_data)[1]
> minSalesMonth<-months[minSalesIndex]
> minSalesValue<-sales_data[minSalesIndex]
> print(minSalesMonth)
[1] "March"
> print(minSalesValue)
[1] 35
>
> #Increase the sales figure for the third month (March) by 10%.
> sales_data[3]=sales_data[3]+sales_data[3]/10
> print(sales_data)
 [1] 45.0 60.0 38.5 75.0 80.0 62.0 48.0 53.0 69.0 72.0 40.0 55.0
>
> #Sort the sales_data vector in ascending order and create a new vector named
sorted_sales.
> sorted_sales<-sort(sales_data)
> print(sorted_sales)
 [1] 38.5 40.0 45.0 48.0 53.0 55.0 60.0 62.0 69.0 72.0 75.0 80.0
>
> #Sort the sales_data vector in descending order and create a new vector
named reverse_sorted_sales.
> reverse_sorted_sales<-sort(sales_data,decreasing = TRUE)
> print(reverse_sorted_sales)
 [1] 80.0 75.0 72.0 69.0 62.0 60.0 55.0 53.0 48.0 45.0 40.0 38.5
>
> #Calculate the median sales value from the sorted_sales vector.
> median_sales<-median(sorted_sales)
> print(median_sales)
[1] 57.5
>
```