

Analysis of Sales Report of a Clothes Manufacturing Outlet.

Q1) To automate the process of recommendations, the store needs to analyse the given attributes of the product, like the style, season, etc., and come up with a model to predict the recommendation of products (in binary output – 0 or 1) accordingly.

Ans) The various attributes of the product are Style, Season, Material, Fabric Type, Decoration, Pattern Type etc. Here, I am using the concept of Regression Analysis with Multiple Variables. The dependent variable is the Recommendation while Season, Style, Fabric Type, Decoration are the independent variables. Below mention is the code of Regression analysis with Multiple variables

```
clothes_data=read_excel("C:/Users/shiva/Desktop/Shivani/SimpliLearn/Data Science with R/Attributes.xlsx")
```

```
print(clothes_data)
```

```
View(clothes_data)
```

```
str(clothes_data)
```

```
dress_results<-
```

```
lm(formula=Recommendation~Season+Style+Material+FabricType+Decoration+PatternType  
+Size+NeckLine+SleeveLength+waiseline,data=clothes_data)
```

```
print(dress_results)
```

```
summary(dress_results)
```

The output of the above mentioned Regression Analysis with Multiple variables is mention below:

The first screenshot represents the style, price, rating and other attributes of various dresses along with their dress ID's

RGui (64-bit)

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R Console

```
> library("readxl")
> clothes_data=read_excel("C:/Users/shiva/Desktop/Shivani/SimpliLearn/Data Scie$
> print(clothes_data)
# A tibble: 500 × 14
  Dress_ID Style Price Rating Size Season NeckLine SleeveLength waiseline
  <dbl> <chr> <chr> <dbl> <chr> <chr> <chr> <chr> <chr>
1 1006032852 Sexy Low 4.6 M Summer o-neck sleeveless empire
2 1212192089 Casual Low 0 L Summer o-neck Petal natural
3 1190380701 vintage High 0 L Automn o-neck full natural
4 966005983 Brief Aver... 4.6 L Spring o-neck full natural
5 876339541 cute Low 4.5 M Summer o-neck butterfly natural
6 1068332458 bohemian Low 0 M Summer v-neck sleeveless empire
7 1220707172 Casual Aver... 0 XL Summer o-neck full null
8 1219677488 Novelty Aver... 0 free Automn o-neck short natural
9 1113094204 Flare Aver... 0 free Spring v-neck short empire
10 985292672 bohemian Low 0 free Summer v-neck sleeveless natural
# [1] 490 more rows
# [1] 5 more variables: Material <chr>, FabricType <chr>, Decoration <chr>,
# PatternType <chr>, Recommendation <dbl>
# [1] Use `print(n = ...)` to see more rows
>
```

The second screenshot represents the tabular view of dress attributes

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	Dress_ID	Style	Price	Rating	Size	Season	NeckLine
1	1006032852	Sexy	Low	4.6	M	Summer	o-neck
2	1212192089	Casual	Low	0.0	L	Summer	o-neck
3	1190380701	vintage	High	0.0	L	Automn	o-neck
4	966005983	Brief	Average	4.6	L	Spring	o-neck
5	876339541	cute	Low	4.5	M	Summer	o-neck
6	1068332458	bohemian	Low	0.0	M	Summer	v-neck
7	1220707172	Casual	Average	0.0	XL	Summer	o-neck
8	1219677488	Novelty	Average	0.0	free	Automn	o-neck
9	1113094204	Flare	Average	0.0	free	Spring	v-neck
10	985292672	bohemian	Low	0.0	free	Summer	v-neck
11	1117293701	party	Average	5.0	free	Summer	o-neck
12	898481530	Flare	Average	0.0	free	Spring	v-neck
13	957723897	sexy	Low	4.7	M	Winter	o-neck
14	749031896	vintage	Average	4.8	M	Summer	o-neck
15	1055411544	Casual	Low	5.0	M	Summer	boat-neck
16	1162628131	Casual	Low	0.0	free	Winter	boat-neck
17	624314841	cute	Average	4.7	L	spring	o-neck
18	830467746	bohemian	Medium	5.0	free	Automn	o-neck
19	840857118	Brief	Average	0.0	M	Winter	peterpan-collor

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For expanding the sales of the product, a high end fashion retail store has to follow styling, fabric type, material, decoration and other attributes wrt to season. Here, the dependent variable is Recommendation while season, style, material, Fabric Type and other summation fields are independent variables

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R Console

```
> print(dress_results)
```

Call:

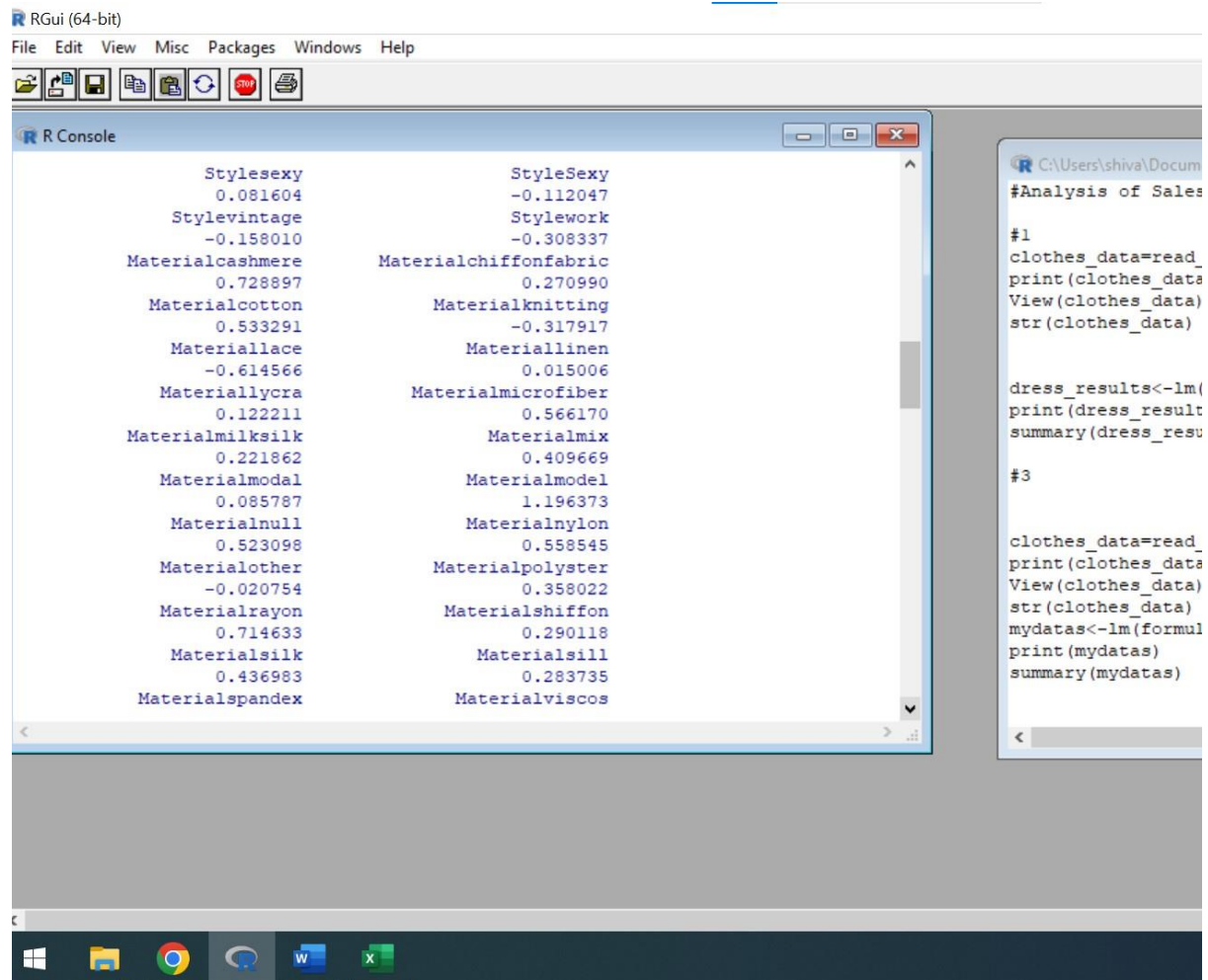
```
lm(formula = Recommendation ~ Season + Style + Material + FabricType +  
  Decoration + PatternType + Size + NeckLine + SleeveLength +  
  waiseline, data = clothes_data)
```

Coefficients:

(Intercept)	SeasonAutumn
-0.234403	-0.186089
Seasonspring	SeasonSpring
0.243178	0.195141
Seasonsummer	SeasonSummer
-0.514474	-0.050809
Seasonwinter	SeasonWinter
0.172935	0.032913
StyleBrief	StyleCasual
-0.283975	-0.115842
Stylecute	Stylefashion
-0.002484	-1.300627
StyleFlare	StyleNovelty
-0.147997	0.030050
StyleOL	Styleparty
0.183743	-0.059055
Stylesexy	StyleSexy

<





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R Console

```
0.522687      0.686026
SleeveLengthcap-sleeves    SleeveLengthcapsleeves
0.182031      0.763407
    SleeveLengthfull      SleeveLengthhalf
0.488727      0.071843
SleeveLengthhalfsleeve    SleeveLengthNULL
0.389257      -0.004385
    SleeveLengthPetal      SleeveLengthshort
NA      0.279338
SleeveLengthsleeveless    SleeveLengthsleeveless
0.815522      0.268065
    SleeveLengthsleeveless    SleeveLengthsleeveless
0.441553      1.302689
SleeveLengththreequarter    SleeveLengththreequarter
0.383927      1.139321
    SleeveLengththressqatar    SleeveLengthturndowncollor
0.348164      0.878813
SleeveLengthturndowncollor    waiselineempire
-0.081307      -0.109681
    waiselinenatural      waiselinenull
-0.172233      -0.239297
    waiselineprincess
0.278974
```

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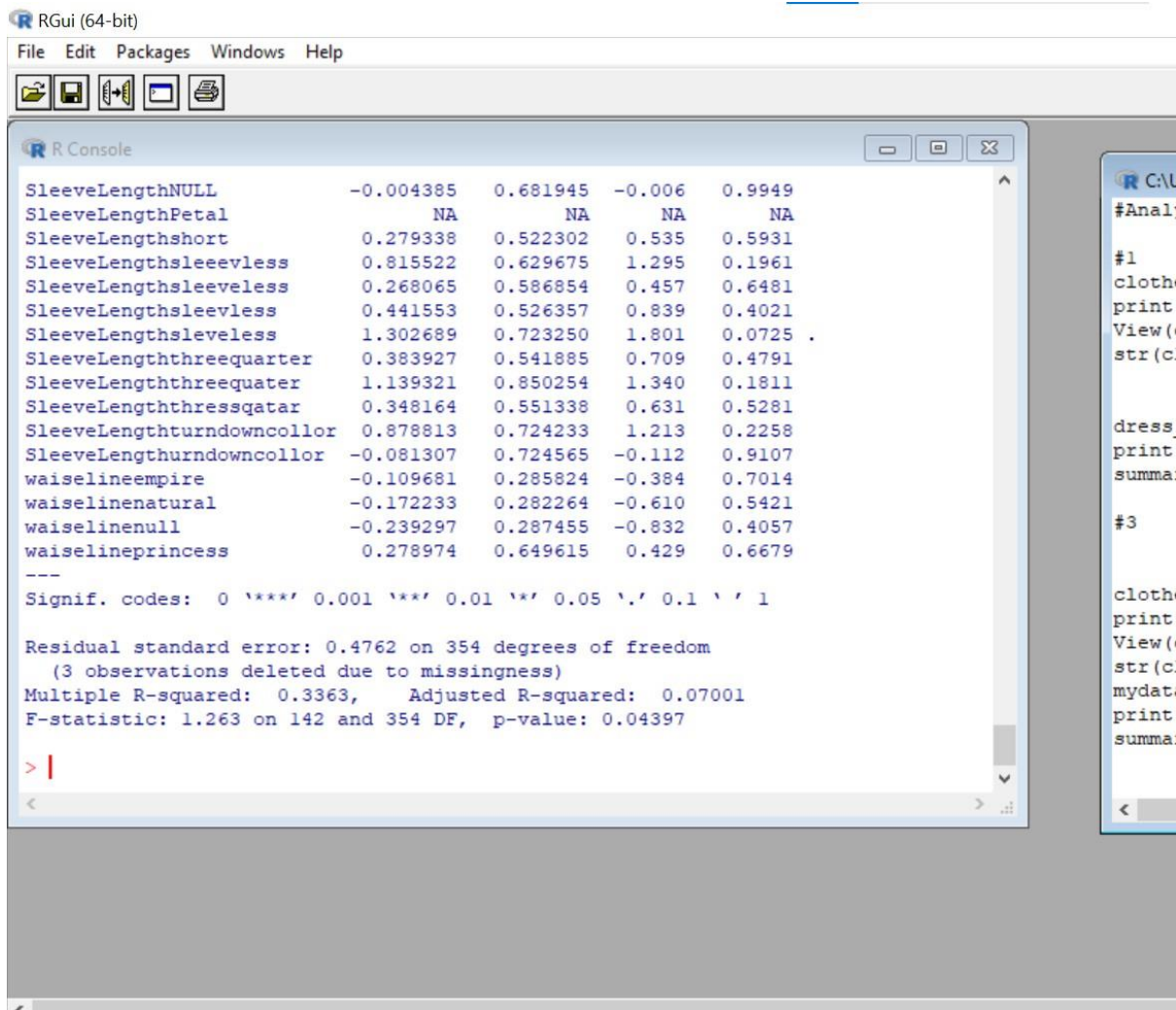
print

summa

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Residual is the difference between the dependent variable and independent variable. By applying above mentioned formula one can analyse the 70% of values fit to the model because the adjusted R-squared is 0.07001 and residual standard error is also 0.47

Q2) In order to stock the inventory, the store wants to analyze the sales data and predict the trend of total sales for each dress for an extended period of three more alternative days.

Ans) For analysing the sales data and predicting the trend of total sales for each dress for an extended period, I am using the concept of ggplot. Ggplot in R is helpful in data visualization. The below attached are the ggplot of Total Sales for October Month. The dates 8,10 and 12 are taken in consideration. Below mentioned are the code in R

```

dress_data<-
read.csv("https://raw.githubusercontent.com/shivanipriya89/mydress/main/Dress%20Sales.csv")

print(dress_data)

View(dress_data)

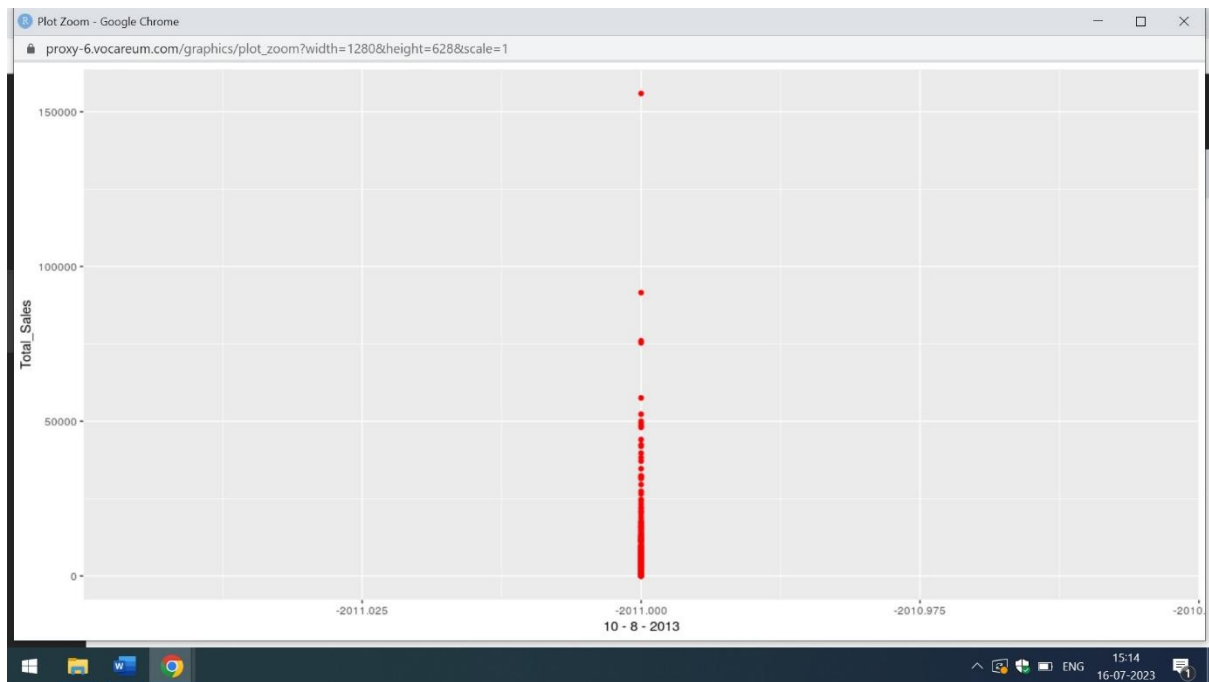
```

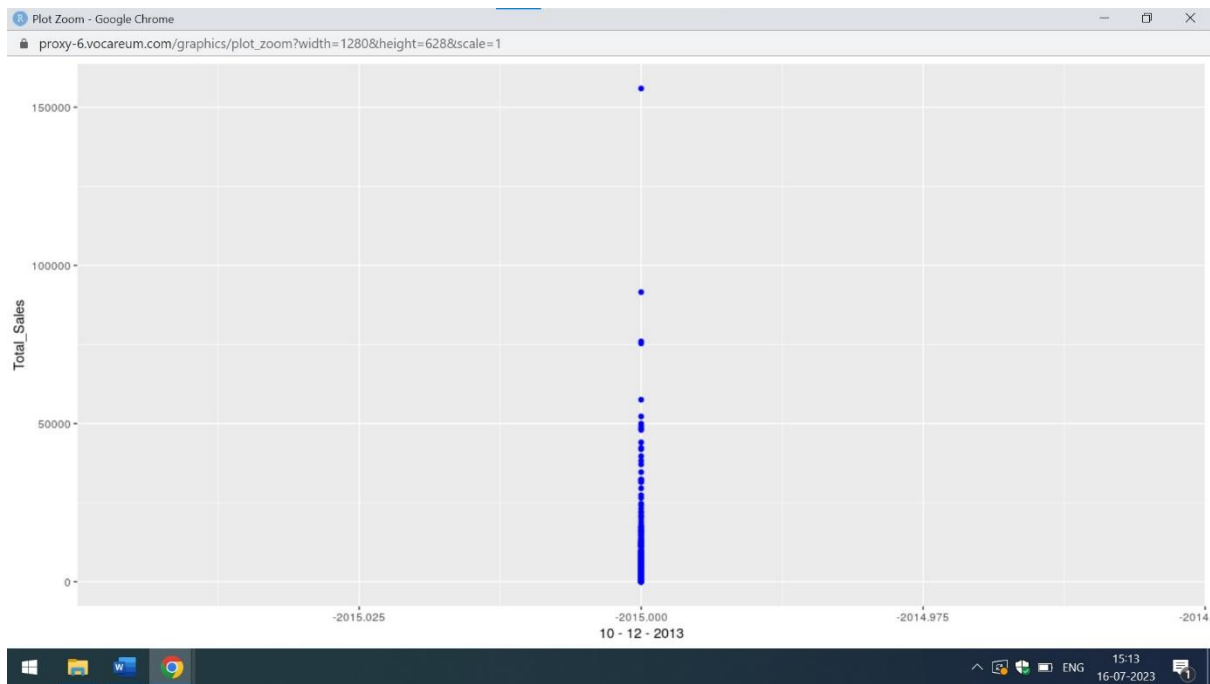
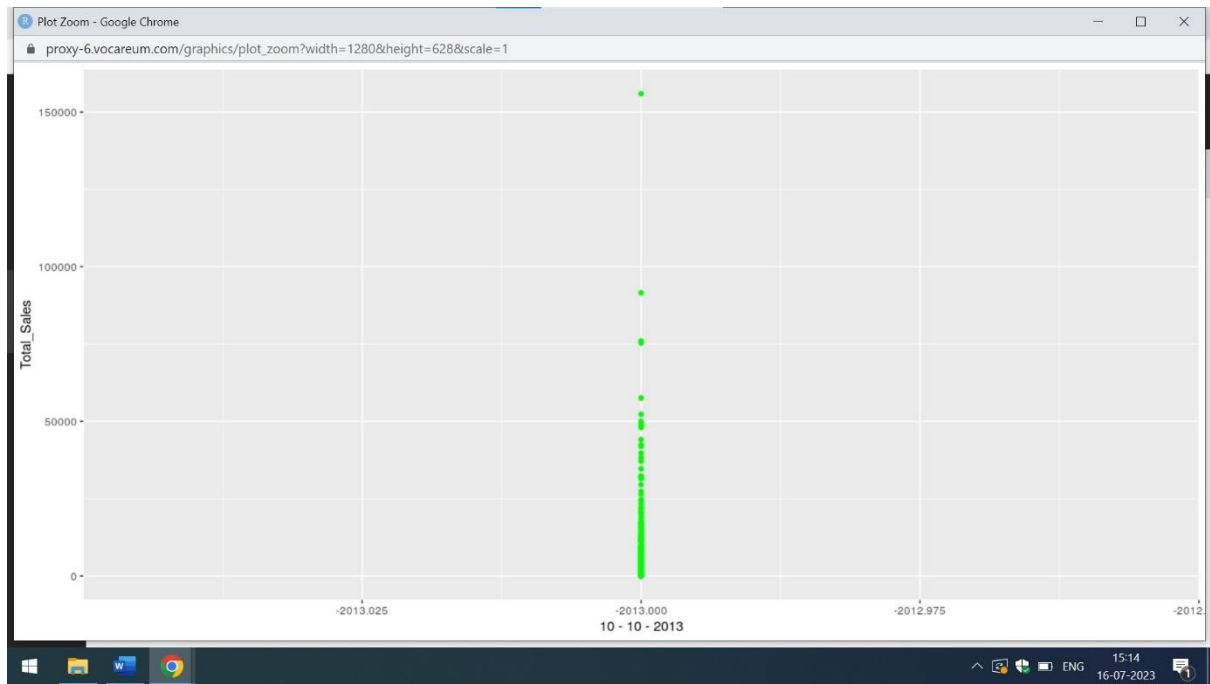
```
myplot<-ggplot(data=dress_data,mapping=aes(x=10-12-2013,y=Total_Sales))  
myplot+geom_point(color="blue")
```

```
myplot<-ggplot(data=dress_data,mapping=aes(x=10-10-2013,y=Total_Sales))  
myplot+geom_point(color="green")
```

```
myplot<-ggplot(data=dress_data,mapping=aes(x=10-08-2013,y=Total_Sales))  
myplot+geom_point(color="red")
```

Below attached are the ggplot of 8th, 10th and 12th October 2013





From the above mentioned plots it is clear that total sales is increasing for the consecutive days

Q3) To decide the pricing for various upcoming clothes, they wish to find how the style, season, and material affect the sales of a dress and if the style of the dress is more influential than its price.

Ans) For deciding the pricing for various upcoming clothes, style, season and material attributes plays an important role. Here, I am using the concept of Simple Linear Regression for the analysis of Style and Price attributes on dependent variable ie Recommendation

```
clothes_data=read_excel("C:/Users/shiva/Desktop/Shivani/SimpliLearn/Data Science with R/Attributes.xlsx")
```

```
print(clothes_data)
```

```
View(clothes_data)
```

```
str(clothes_data)
```

```
mydatas<-lm(formula=Recommendation~Style,data=clothes_data)
```

```
print(mydatas)
```

```
summary(mydatas)
```

```
mydatas1<-lm(formula=Recommendation~Price,data=clothes_data)
```

```
print(mydatas1)
```

```
summary(mydatas1)
```

```
mydatas<-lm(formula=Recommendation~Style+Season+Material,data=clothes_data)
```

```
print(mydatas)
```

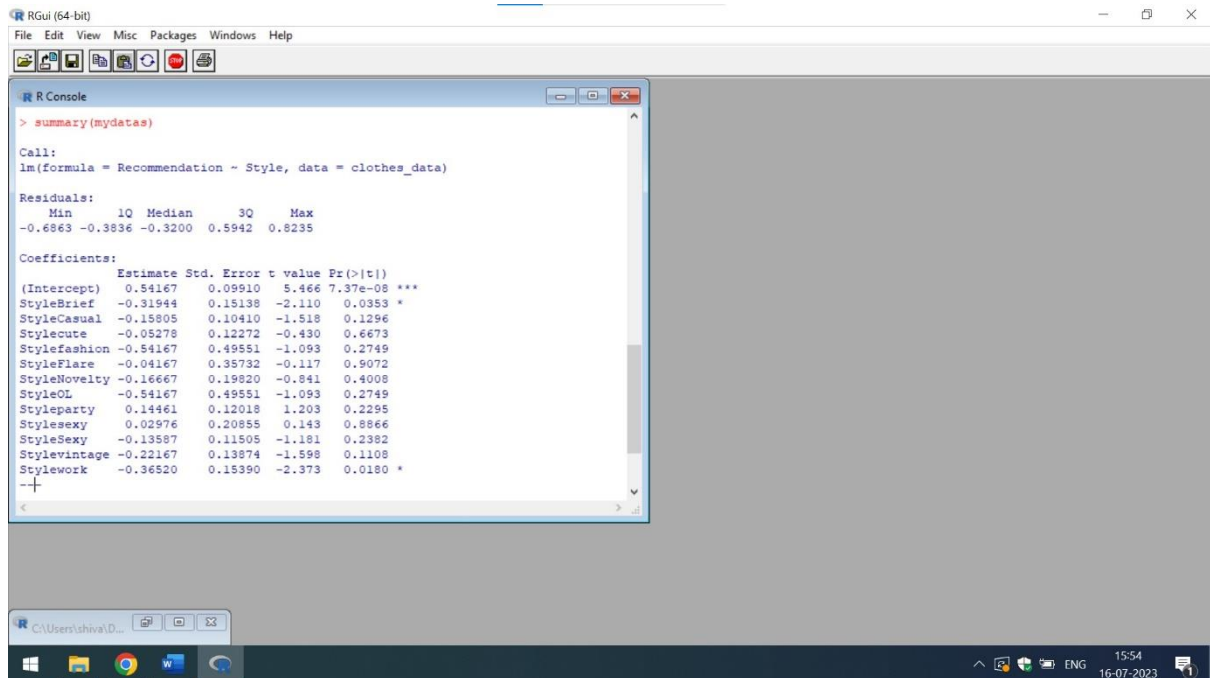
```
summary(mydatas)
```

```
mydatas<-lm(formula=Recommendation~Price+Season+Material,data=clothes_data)
```

```
print(mydatas)
```

```
summary(mydatas)
```

The below attached is the output of the Linear Regression ie Recommendation on Style vs Recommendation on Price



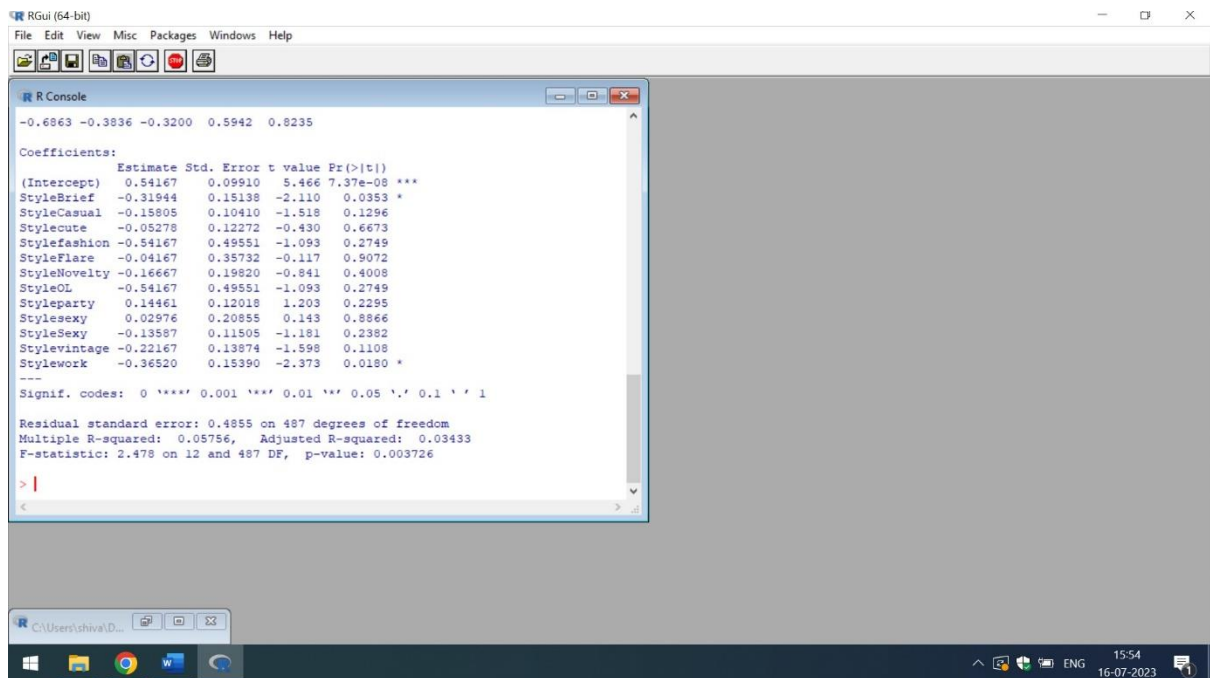
```
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R Console
> summary(mydata)

Call:
lm(formula = Recommendation ~ Style, data = clothes_data)

Residuals:
    Min       1Q   Median       3Q      Max
-0.6863 -0.3836 -0.3200  0.5942  0.8235

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.54167    0.09910   5.466 7.37e-08 ***
StyleBrief   -0.31944    0.15138  -2.110  0.0353 *
StyleCasual  -0.15805    0.10410  -1.518  0.1296
Stylecute    -0.05278    0.12272  -0.430  0.6673
Stylefashion -0.54167    0.49551  -1.093  0.2749
StyleFlare   -0.04167    0.35732  -0.117  0.9072
StyleNovelty -0.16667    0.19820  -0.841  0.4008
StyleOL      -0.54167    0.49551  -1.093  0.2749
Styleparty   0.14461    0.12018   1.203  0.2295
Stylesexy    0.02976    0.20855   0.143  0.8866
StyleSexy    -0.13587    0.11505  -1.181  0.2382
Stylevintage -0.22167    0.13874  -1.598  0.1108
Stylework    -0.36520    0.15390  -2.373  0.0180 *
```



```
RGui (64-bit)
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R Console
-0.6863 -0.3836 -0.3200  0.5942  0.8235

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.54167    0.09910   5.466 7.37e-08 ***
StyleBrief   -0.31944    0.15138  -2.110  0.0353 *
StyleCasual  -0.15805    0.10410  -1.518  0.1296
Stylecute    -0.05278    0.12272  -0.430  0.6673
Stylefashion -0.54167    0.49551  -1.093  0.2749
StyleFlare   -0.04167    0.35732  -0.117  0.9072
StyleNovelty -0.16667    0.19820  -0.841  0.4008
StyleOL      -0.54167    0.49551  -1.093  0.2749
Styleparty   0.14461    0.12018   1.203  0.2295
Stylesexy    0.02976    0.20855   0.143  0.8866
StyleSexy    -0.13587    0.11505  -1.181  0.2382
Stylevintage -0.22167    0.13874  -1.598  0.1108
Stylework    -0.36520    0.15390  -2.373  0.0180 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.4855 on 487 degrees of freedom
Multiple R-squared:  0.05756, Adjusted R-squared:  0.03433
F-statistic: 2.478 on 12 and 487 DF, p-value: 0.003726

> |
```

The screenshot shows the RGui interface with two windows. The 'R Console' window displays the results of two linear regression models. The first model, `lm(formula=Recommendation~Style, data=clothes_data)`, has a residual standard error of 0.4855 on 487 degrees of freedom, a multiple R-squared of 0.05756, an adjusted R-squared of 0.03433, and an F-statistic of 2.478 on 12 and 487 DF with a p-value of 0.003726. The second model, `lm(formula=Recommendation~Price, data=clothes_data)`, has a residual standard error of 0.487 on 491 degrees of freedom, a multiple R-squared of 0.03859, an adjusted R-squared of 0.02684, and an F-statistic of 3.284 on 6 and 491 DF with a p-value of 0.003541. The 'R Editor' window shows the R code used to load the data and fit the models.

```
Styleparty 0.14461 0.12018 1.203 0.2295
Stylesexy 0.02976 0.20855 0.143 0.8866
Stylesexy -0.13587 0.11505 -1.181 0.2382
Stylevintage -0.22167 0.13874 -1.598 0.1108
Stylework -0.36520 0.15390 -2.373 0.0180 *
---
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.4855 on 487 degrees of freedom
Multiple R-squared: 0.05756, Adjusted R-squared: 0.03433
F-statistic: 2.478 on 12 and 487 DF, p-value: 0.003726

> mydatas1<-lm(formula=Recommendation~Price,data=clothes_data)
> print(mydatas1)

Call:
lm(formula = Recommendation ~ Price, data = clothes_data)

Coefficients:
(Intercept) Pricehigh PriceHigh PriceLow PriceLow
0.36508 0.10159 -0.03175 0.03492 0.05353
PriceMedium Pricevery-high
0.26825 0.39683

> |
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C:\Users\shiva\Documents\clothes.R - R Editor
clothes_data=read_excel("C:/Users/shiva/Desktop/Shivani/SimpliLearn/Data
print(clothes_data)
View(clothes_data)
str(clothes_data)
mydatas<-lm(formula=Recommendation~Style,data=clothes_data)
print(mydatas)
summary(mydatas)

mydatas1<-lm(formula=Recommendation~Price,data=clothes_data)
print(mydatas1)
summary(mydatas1)

mydatas<-lm(formula=Recommendation~Style+Season+Material,data=clothes_da
print(mydatas)
summary(mydatas)

mydatas<-lm(formula=Recommendation~Price+Season+Material,data=clothes_da
print(mydatas)
summary(mydatas)
<
```

The screenshot shows the RGui interface with two windows. The 'R Console' window displays the results of a linear regression model. The model, `lm(formula = Recommendation ~ Price, data = clothes_data)`, has a residual standard error of 0.487 on 491 degrees of freedom, a multiple R-squared of 0.03859, an adjusted R-squared of 0.02684, and an F-statistic of 3.284 on 6 and 491 DF with a p-value of 0.003541. The 'R Editor' window shows the R code used to load the data and fit the model.

```
Call:
lm(formula = Recommendation ~ Price, data = clothes_data)

Residuals:
Min 1Q Median 3Q Max
-0.7619 -0.4000 -0.3651 0.5814 0.6667

Coefficients:
(Intercept) Estimate Std. Error t value Pr(>|t|)
Pricehigh 0.36508 0.03068 11.900 < 2e-16 ***
Pricehigh 0.10159 0.12943 0.785 0.432907
PriceHigh -0.03175 0.20117 -0.158 0.874674
PriceLow 0.03492 0.07881 0.443 0.657905
PriceLow 0.05353 0.05272 1.015 0.310500
PriceMedium 0.26825 0.09406 2.852 0.004527 **
Pricevery-high 0.39683 0.11061 3.588 0.000367 ***
---
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.487 on 491 degrees of freedom
(2 observations deleted due to missingness)
Multiple R-squared: 0.03859, Adjusted R-squared: 0.02684
F-statistic: 3.284 on 6 and 491 DF, p-value: 0.003541

> |
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C:\Users\shiva\Documents\clothes.R - R Editor
clothes_data=read_excel("C:/Users/shiva/Desktop/Shivani/SimpliLearn/Data
print(clothes_data)
View(clothes_data)
str(clothes_data)
mydatas<-lm(formula=Recommendation~Style,data=clothes_data)
print(mydatas)
summary(mydatas)

mydatas1<-lm(formula=Recommendation~Price,data=clothes_data)
print(mydatas1)
summary(mydatas1)

mydatas<-lm(formula=Recommendation~Style+Season+Material,data=clothes_da
print(mydatas)
summary(mydatas)

mydatas<-lm(formula=Recommendation~Price+Season+Material,data=clothes_da
print(mydatas)
summary(mydatas)
<
```

From the above mentioned screenshots, it is clear that the residual standard error of Recommendation vs Style is 0.4855 on 487 degrees of freedom. While the residual standard error of Recommendation vs Price is 0.487 on 491 degrees of freedom. Smaller residual standard error means predictions are better. Hence, the style of the dress is more influential than its price. Moreover, the adjusted R square of Recommendation on Style is 0.3433 which shows

34% of values fit to the model and the adjusted R square of Recommendation on Price is 0.268 ie almost 27% of values fit to the model. Hence, from both analysis it is clear that style of the dress is more influential than its price

The below attached is the output of the Linear Regression ie Recommendation on Style vs Recommendation on Price with multiple attributes

The screenshot shows the RGui interface with the R Console and R Editor windows. The R Console displays the output of the following R code:

```
Call:
lm(formula = Recommendation ~ Style + Season + Material, data = clothes_data)

Residuals:
    Min       1Q   Median       3Q      Max
-0.8319 -0.3875 -0.1578  0.4592  0.8553

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.03749   0.30395   0.123  0.90188
StyleBrief   -0.36198   0.15262  -2.372  0.01812 *
StyleCasual  -0.15125   0.10578  -1.430  0.15345
Stylecute    -0.03538   0.12444  -0.284  0.77629
Stylefashion -0.51186   0.48593  -1.053  0.29274
StyleFlare   -0.26930   0.35777  -0.753  0.45201
StyleNovelty -0.05209   0.19810  -0.263  0.79273
StyleOL      -0.57464   0.48833  -1.177  0.23992
Styleparty   0.08066   0.12292   0.652  0.51041
Stylesexy    0.16451   0.22048   0.746  0.45598
StyleSexy    -0.12355   0.11568  -1.068  0.28608
Stylevintage -0.23114   0.13822  -1.672  0.09516 .
Stylwork     -0.33883   0.15437  -2.195  0.02867 *
SeasonAutumn -0.11396   0.18081  -0.630  0.52881
Seasonspring  0.05507   0.34366   0.160  0.87275
```

The R Editor window shows the following R code:

```
Recommendation~Price,data=clothes_data)

Recommendation~Style+Season+Material,data=clothes_data)

Recommendation~Price+Season+Material,data=clothes_data)
```

The screenshot shows the RGui interface with the R Console and R Editor windows. The R Console displays the output of the following R code:

```
Materialmicrofiber  0.35783   0.39338   0.910  0.36350
Materialmilksilk    0.23075   0.35013   0.659  0.51020
Materialmix          0.40653   0.31015   1.311  0.19061
Materialmodal        0.13965   0.55106   0.253  0.80005
Materialmodel        1.13965   0.55106   2.068  0.03920 *
Materialnull         0.50124   0.28122   1.782  0.07535 .
Materialnylon        0.47842   0.32054   1.493  0.13625
Materialother        0.07688   0.44011   0.175  0.86141
Materialpolyester    0.29748   0.28266   1.052  0.29315
Materialrayon        0.69153   0.31640   2.186  0.02935 *
Materialshiffon      0.23773   0.43962   0.541  0.58894
Materialsilk         0.38637   0.29224   1.322  0.18681
Materialsilk         0.11195   0.55375   0.202  0.83988
Materialspandex      0.29625   0.35039   0.845  0.39829
Materialviscos       0.49345   0.43932   1.123  0.26194
Materialwool         -0.10580   0.55212  -0.192  0.84813

---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.474 on 454 degrees of freedom
(3 observations deleted due to missingness)
Multiple R-squared:  0.1567,    Adjusted R-squared:  0.07873
F-statistic: 2.009 on 42 and 454 DF,  p-value: 0.000304

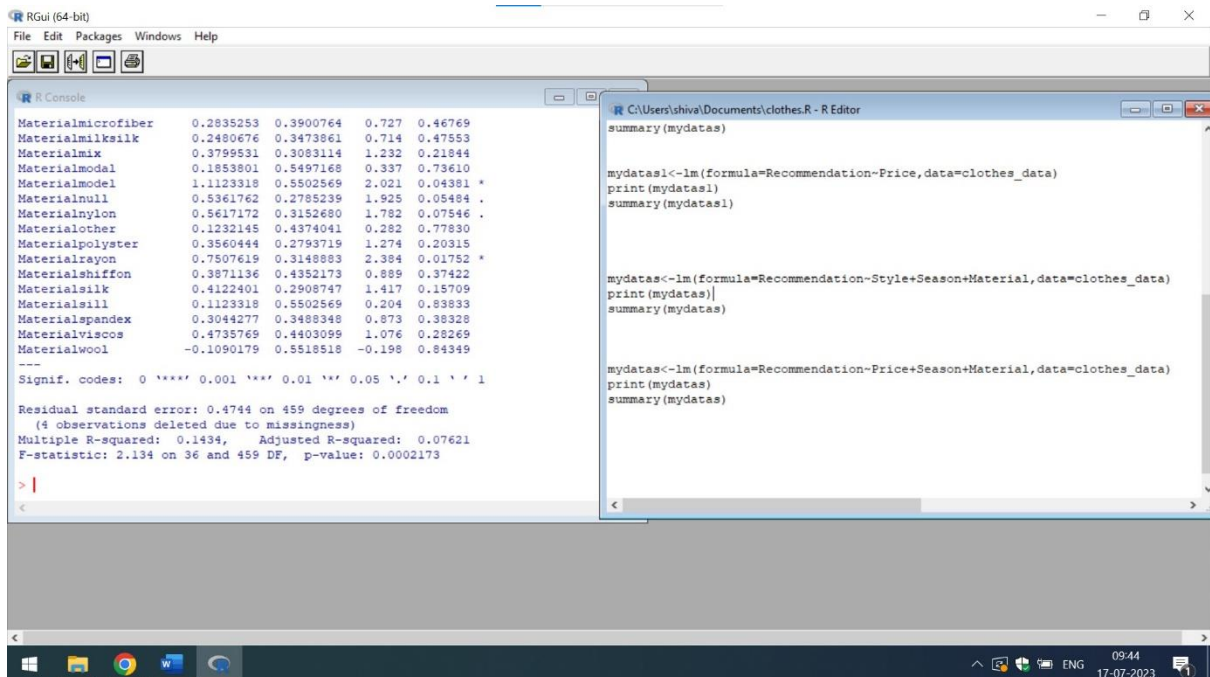
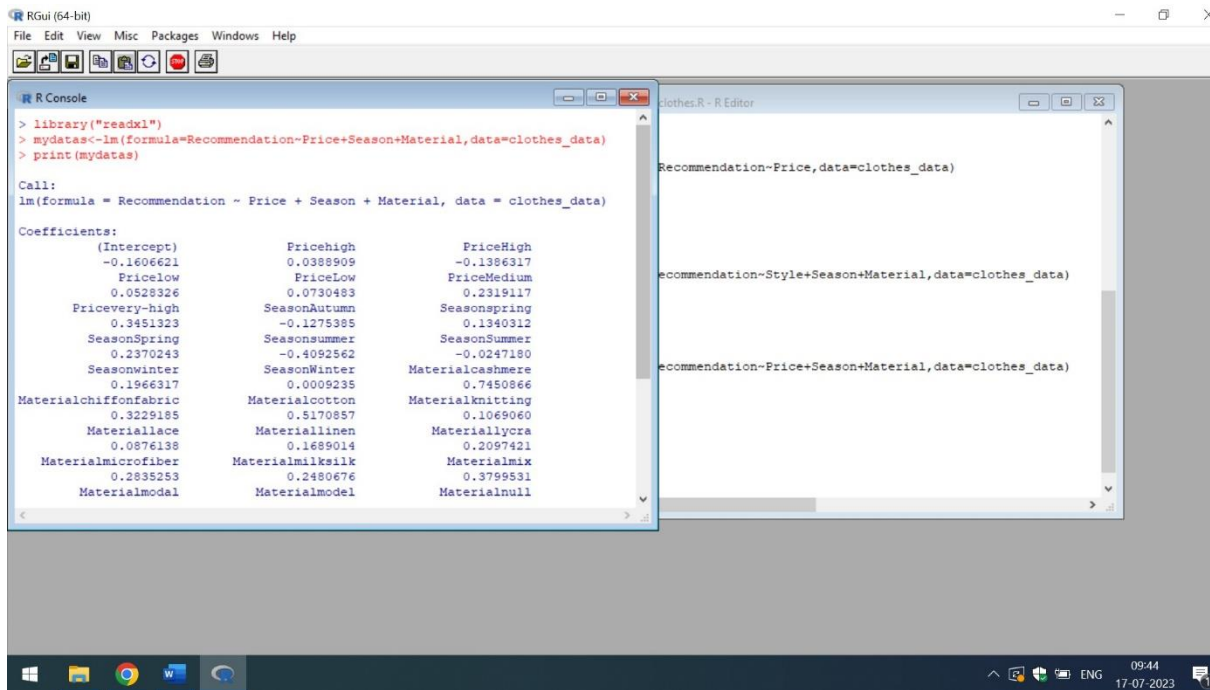
> |
```

The R Editor window shows the following R code:

```
Recommendation~Price,data=clothes_data)

Recommendation~Style+Season+Material,data=clothes_data)

Recommendation~Price+Season+Material,data=clothes_data)
```



It is also very clear that from the simple Linear Regression with multiple attributes that Adjusted R square of Recommendation vs Style with multiple attributes is 0.0787 which shows that almost 78% of values fit to the model but the adjusted R square of Recommendation vs Price with multiple attributes is 0.07621 which indicates that 76% of values fit to the model. Hence, from both analysis it is clear that style of the dress is more influential than its price

Q4) Also, to increase sales, the management wants to analyze the attributes of dresses and find which are the leading factors affecting the sale of a dress.

Ans) The Decision Tree Algorithm helps in analysing the attributes of dresses. It even gives an idea in discovering the factors affecting the sales of a dress. Simple Linear Regression with multiple attributes gives an idea of the impact of independent variables on dependent.

The below attached is the code in R of impact of Simple Linear Regression with Multiple variables including the decision tree algorithm

```
clothes_data=read.csv("https://raw.githubusercontent.com/shivanipriya89/Dress/main/Attr.csv")
```

```
dress_results<-lm(formula=Recommendation~Season+Style+Material,data=clothes_data)
```

```
print(clothes_data)
```

```
View(clothes_data)
```

```
str(clothes_data)
```

```
png(file = "decision_tree.png")
```

```
# Create the tree.
```

```
output.tree <- ctree(Recommendation~Season+Style+Material,data = clothes_data)
```

```
# Plot the tree.
```

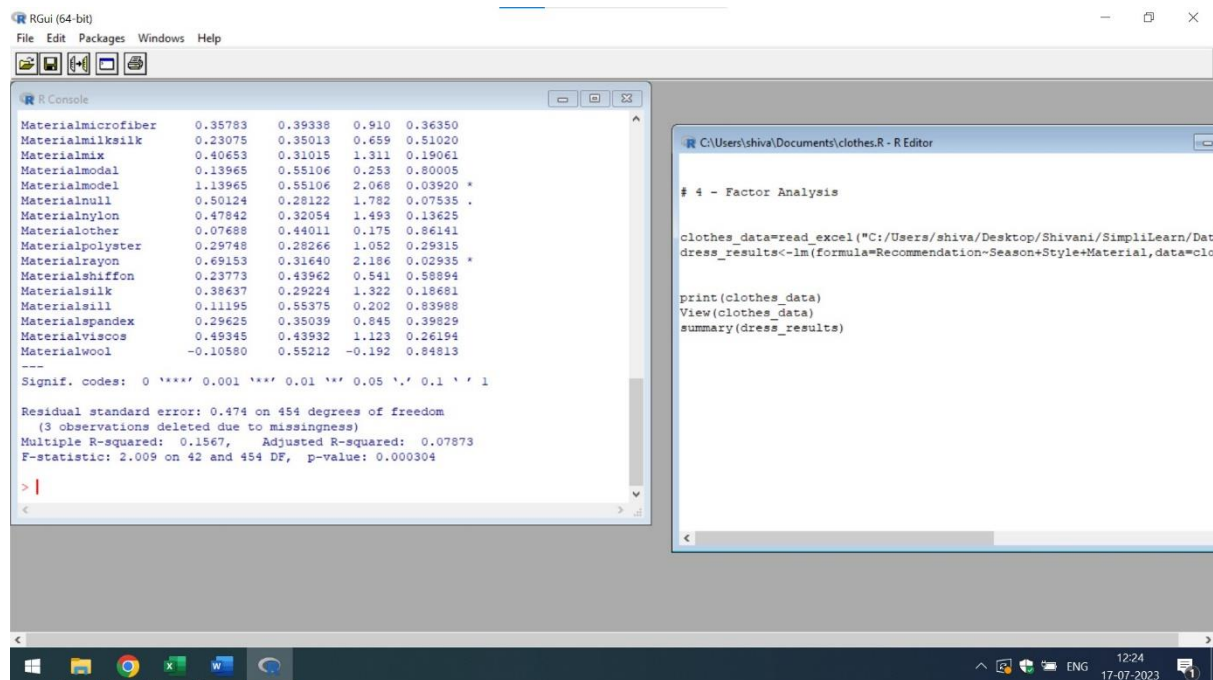
```
plot(output.tree)
```

```
# Save the file.
```

```
dev.off()
```

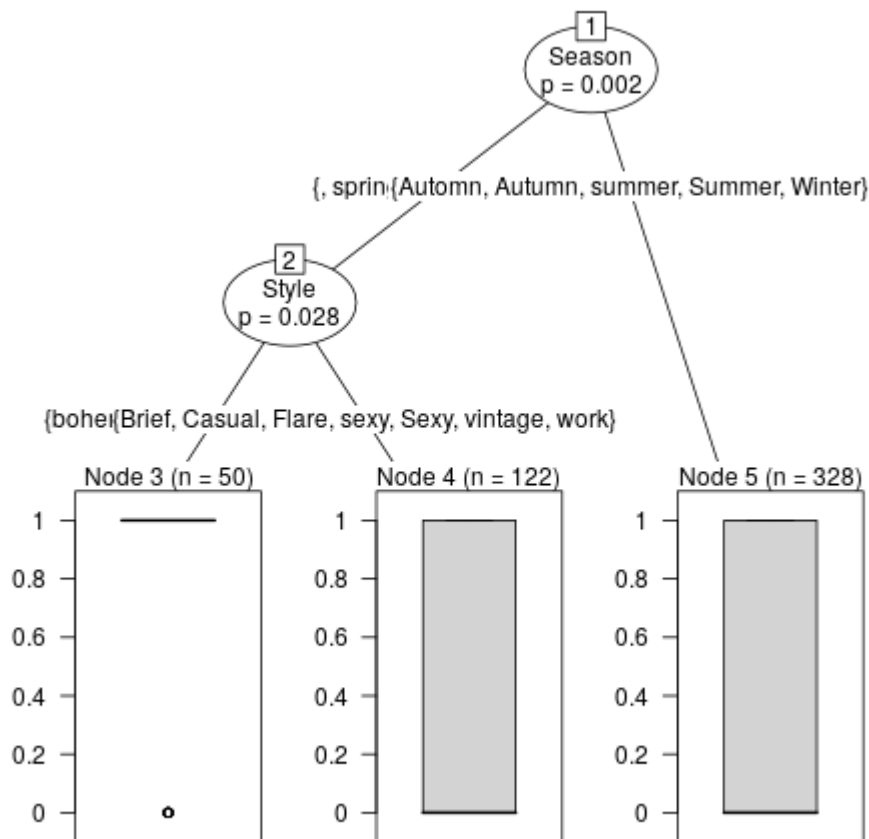
The below attached is the output of

```
dress_results<-lm(formula=Recommendation~Season+Style+Material,data=clothes_data)
```



From the above mentioned output of the Simple Linear Regression with Multiple Attributes

It is clear that season, style and material are the most important factors in increasing sales. The adjusted R-square is 0.0787 which shows that 79% of values fit to model. The decision tree of Recommendation on Season, Style and Material is mention below



From the above mention graph, it is clear that casual, brief and bohemian are not the good parameters of style of Autumn and spring season. Hence, we can ignore these values

Q5) To regularize the rating procedure and find its efficiency, the store wants to find if the rating of the dress affects the total sales

Ans) For analysing the impact of rating, we can use the concept of Simple Linear Regression i.e. impact of Ratings on Recommendation. The code attached below written in R

```
clothes_data=read_excel("C:/Users/shiva/Desktop/Shivani/SimpliLearn/Data Science with R/Attributes.xlsx")
```

```
dress_results<-lm(formula=Recommendation~Rating,data=clothes_data)
```

```
print(clothes_data)
```

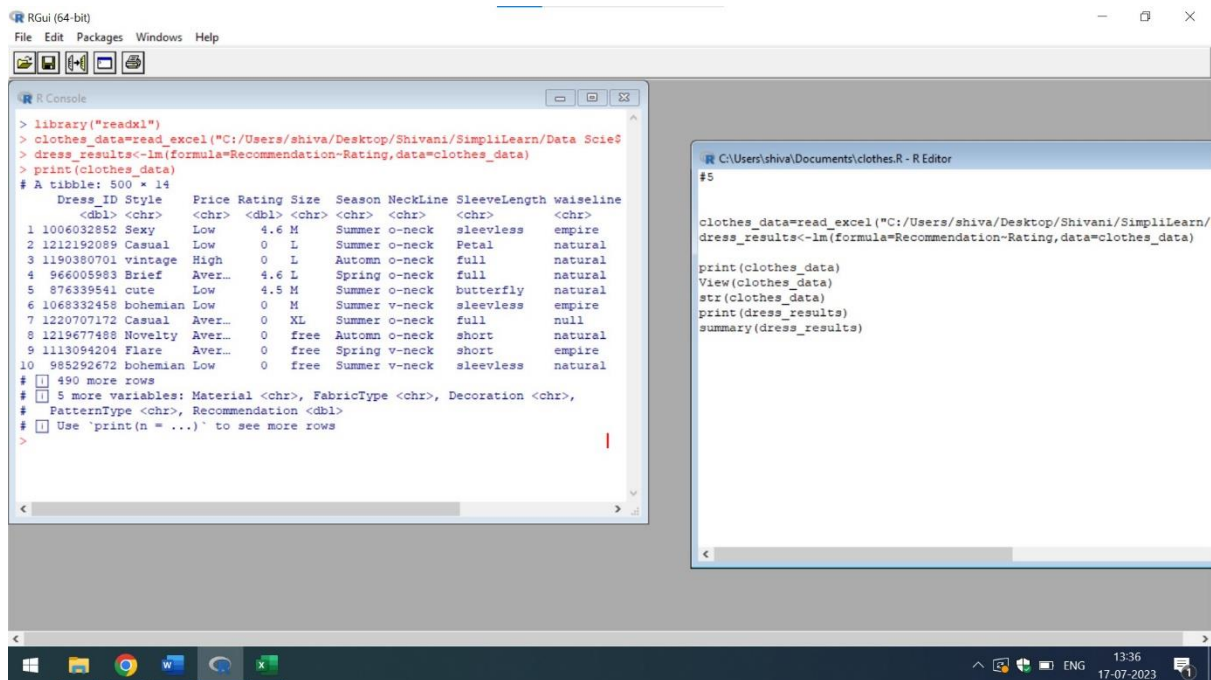
```
View(clothes_data)
```

```
str(clothes_data)
```

```
print(dress_results)
```

summary(dress_results)

The below attached is the output of the dress results



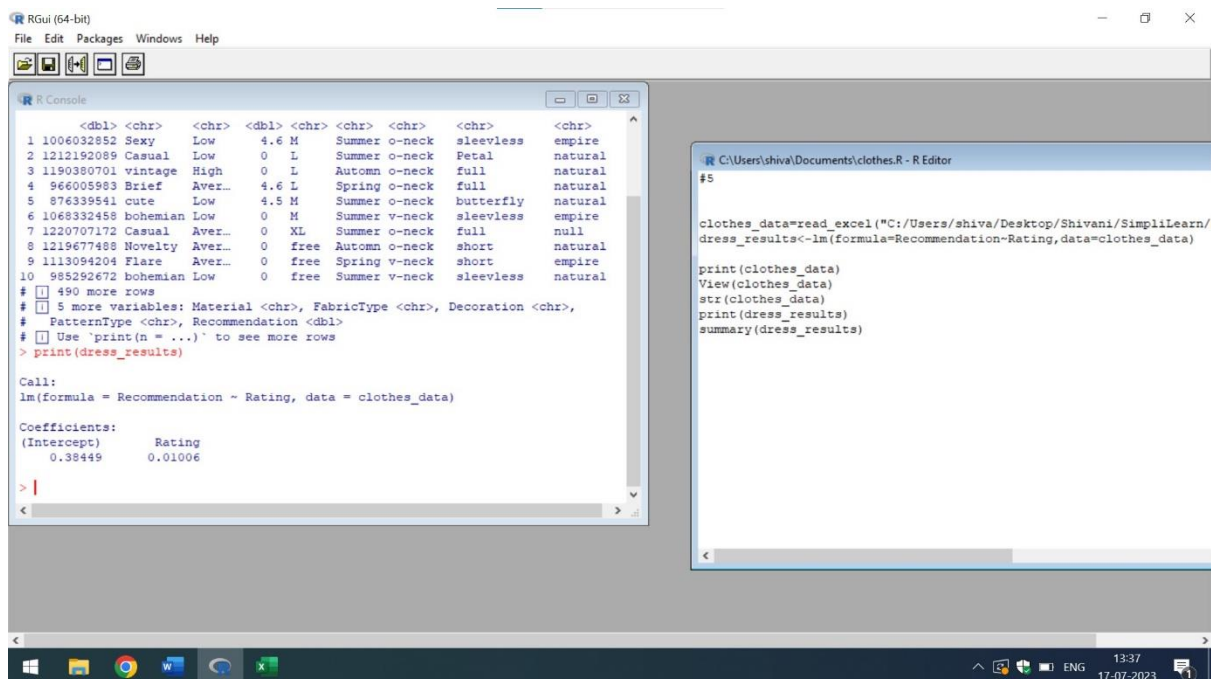
The screenshot shows the RGui interface. The R Console window displays the following code and output:

```
> library("readxl")
> clothes_data=read_excel("C:/Users/shiva/Desktop/Shivani/SimpliLearn/Data Sci&S
> dress_results<-lm(formula=Recommendation~Rating,data=clothes_data)
> print(clothes_data)
# A tibble: 500 × 14
  Dress_ID Style      Price Rating Size Season NeckLine SleeveLength waiseline
  <dbl> <chr>      <dbl> <dbl> <chr> <chr> <chr> <chr> <chr>
1 1006032852 Sexy      Low    4.6 M Summer o-neck sleeveless empire
2 1212192089 Casual    Low    0 L Summer o-neck Petal natural
3 1190380701 vintage High    0 L Autumn o-neck full natural
4 966005983 Brief Aver... 4.6 L Spring o-neck full natural
5 876339541 cute Low    4.5 M Summer o-neck butterfly natural
6 1068332458 bohemian Low    0 M Summer v-neck sleeveless empire
7 1220707172 Casual Aver... 0 XL Summer o-neck full null
8 1219677488 Novelty Aver... 0 free Autumn o-neck short natural
9 1113094204 Flare Aver... 0 free Spring v-neck short empire
10 985292672 bohemian Low    0 free Summer v-neck sleeveless natural
# 490 more rows
# 5 more variables: Material <chr>, FabricType <chr>, Decoration <chr>,
# PatternType <chr>, Recommendation <dbl>
# Use 'print(n = ...)' to see more rows
>
```

The R Editor window shows the following code:

```
#5
clothes_data=read_excel("C:/Users/shiva/Desktop/Shivani/SimpliLearn/
dress_results<-lm(formula=Recommendation~Rating,data=clothes_data)

print(clothes_data)
View(clothes_data)
str(clothes_data)
print(dress_results)
summary(dress_results)
```



The screenshot shows the RGui interface. The R Console window displays the following code and output:

```
> print(dress_results)

Call:
lm(formula = Recommendation ~ Rating, data = clothes_data)

Coefficients:
(Intercept)      Rating
  0.38449      0.01006

>
```

The R Editor window shows the following code:

```
#5
clothes_data=read_excel("C:/Users/shiva/Desktop/Shivani/SimpliLearn/
dress_results<-lm(formula=Recommendation~Rating,data=clothes_data)

print(clothes_data)
View(clothes_data)
str(clothes_data)
print(dress_results)
summary(dress_results)
```

The screenshot shows the RGui (64-bit) interface. The R Console on the left displays the output of a linear regression model. The R script editor on the right shows the code used to load the data and fit the model.

```
Coefficients:
(Intercept)      Rating
0.38449        0.01006

> summary(dress_results)

Call:
lm(formula = Recommendation ~ Rating, data = clothes_data)

Residuals:
    Min       1Q   Median       3Q      Max
-0.4348 -0.4308 -0.3845  0.5682  0.6155

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.38449    0.04476   8.590  <2e-16 ***
Rating       0.01006    0.01103   0.912   0.362
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.4941 on 498 degrees of freedom
Multiple R-squared:  0.001668, Adjusted R-squared: -0.0003362
F-statistic: 0.8323 on 1 and 498 DF, p-value: 0.3621

> |
```

```
#5

clothes_data=read_excel("C:/Users/shiva/Desktop/Shivani/SimpliLearn/
dress_results<-lm(formula=Recommendation~Rating,data=clothes_data)

print(clothes_data)
View(clothes_data)
str(clothes_data)
print(dress_results)
summary(dress_results)
```

It is very clear from the simple Linear Regression that Rating has no impact on Recommendation because the value of adjusted R square is in negative digits that indicates none of the values fit to the model even the values of the residuals are in negative digits.

Hence we can assume rating is an independent variable and has no impact on Recommendation, hence rating has no impact on sales also