MAT2005 - Lab Assessment 5

Q1)
R code

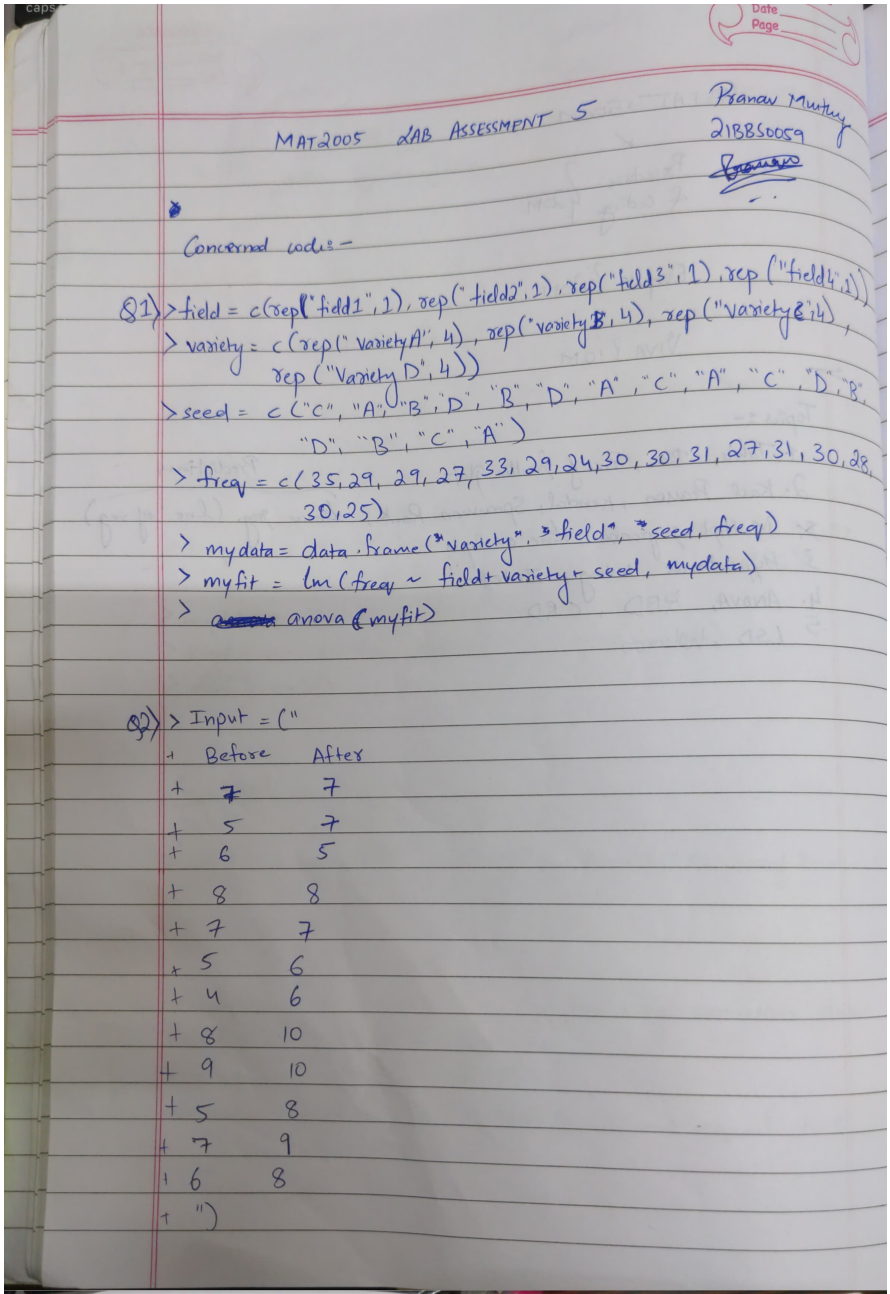
```
> print("21BBS0059")
[1] "21BBS0059"
> field = c(rep("field1",1),rep("field2",1),rep("field3",1),rep("field4",1))
> variety = c(rep("varietyA",4),rep("varietyB",4),rep("varietyC",4),rep("varietyD",4))
> seed = c("C","A","B","D","B","D","A","C","A","C","D","B","D","B","C","A")
> freq = c(35,29,29,27,33,29,24,30,30,31,27,31,30,28,30,25)
> mydata = data.frame(variety,field,seed,freq)
> myfit = lm(freq ~ field + variety + seed, mydata)
> anova(myfit)
Analysis of Variance Table

Response: freq
          Df Sum Sq Mean Sq F value  Pr(>F)
field      3   46.5  15.500  8.8571 0.01269 *
variety    3    7.5   2.500  1.4286 0.32411
seed       3   48.5  16.167  9.2381 0.01148 *
Residuals  6   10.5   1.750
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
> 
```

Q2)
R code

```
> print("21BBS0059")
[1] "21BBS0059"
> Input = c("
+ Before After
+ 7 7
+ 5 7
+ 6 5
+ 8 8
+ 7 7
+ 5 6
+ 4 6
+ 8 10
+ 9 10
+ 5 8
+ 7 9
+ 6 8
+ ")
> Data = read.table(textConnection(Input),header = TRUE)
> Data
   Before After
1       7     7
2       5     7
3       6     5
4       8     8
5       7     7
6       5     6
7       4     6
8       8    10
9       9    10
10      5     8
11      7     9
12      6     8
```

```
> wilcox.test(Data$Before, Data$After, pired = TRUE)

    Wilcoxon rank sum test with continuity correction

data:  Data$Before and Data$After
W = 43.5, p-value = 0.1001
alternative hypothesis: true location shift is not equal to 0

Warning message:
In wilcox.test.default(Data$Before, Data$After, pired = TRUE) :
  cannot compute exact p-value with ties
> wilcox.test(Data$Before, Data$After, pired = TRUE, conf.int = TRUE, conf.level = 0.95)

    Wilcoxon rank sum test with continuity correction

data:  Data$Before and Data$After
W = 43.5, p-value = 0.1001
alternative hypothesis: true location shift is not equal to 0
95 percent confidence interval:
 -2.999952e+00  3.009914e-05
sample estimates:
difference in location
            -1.000003

Warning messages:
1: In wilcox.test.default(Data$Before, Data$After, pired = TRUE, conf.int = TRUE,  :
  cannot compute exact p-value with ties
2: In wilcox.test.default(Data$Before, Data$After, pired = TRUE, conf.int = TRUE,  :
  cannot compute exact confidence intervals with ties
>
```

Notebook -



MAT2005 LAB ASSESSMENT 5

Pranav Murthy
21BBS0059

Concerned code:-

Q1)
```
> field = c(rep("fidd1",1), rep("fidd2",1), rep("field3",1), rep("field4",1))
> variety = c(rep("varietyA",4), rep("varietyB",4), rep("varietyC",4),
          rep("VarietyD",4))
> seed = c("C","A","B","D","B","D","A","C","A","C","D","B",
          "D","B","C","A")
> freq = c(35,29,29,27,33,29,24,30,30,31,27,31,30,28,
          30,25)
> mydata = data.frame("variety","field","seed",freq)
> myfit = lm(freq ~ field+variety+seed, mydata)
> anova(myfit)
```

Q2)
```
> Input = ("
+  Before  After
+  7       7
+  5       7
+  6       5
+  8       8
+  7       7
+  5       6
+  4       6
+  8       10
+  9       10
+  5       8
+  7       9
+  6       8
+  ")
```

Pranav Murthy
21BBS0059

classmate Date Page

```
> Data = read.table(textConnection(Input), header=TRUE)
> Data
> wilcox.test(Data$Before, Data$After, pired=TRUE)
> wilcox.test(Data$Before, Data$After, pired=TRUE, conf.int=TRUE,
+          conf.level=0.95)
```

MAT2005 Assessment 4

Q1

```
>
> print("21BBS0059 || Pranav Murthy")
[1] "21BBS0059 || Pranav Murthy"
> df1 = read.csv("/Users/pranav/Desktop/q1.csv")
> df1
  Program1 Program2 Program3 Program4
1        9       10       12        9
2       12        6       14        8
3       14        9       11       11
4       11        9       13        7
5       13       10       11        8
> r=c(t(as.matrix(df1)))
> r
 [1]  9 10 12  9 12  6 14  8 14  9 11 11 11  9 13  7 13 10 11  8
> f=c("Program 1","Program 2","Program 3","Program 4")
> f
[1] "Program 1" "Program 2" "Program 3" "Program 4"
> k=4
> n=5
> tm=gl(k,1,n*k,factor(f))
> tm
 [1] Program 1 Program 2 Program 3 Program 4 Program 1 Program 2 Program 3 Program 4
 [9] Program 1 Program 2 Program 3 Program 4 Program 1 Program 2 Program 3 Program 4
[17] Program 1 Program 2 Program 3 Program 4
Levels: Program 1 Program 2 Program 3 Program 4
> crdfit=aov(r~tm)
> summary(crdfit)
            Df Sum Sq Mean Sq F value  Pr(>F)
tm           3  54.95   18.32   7.045 0.00311 **
Residuals   16  41.60    2.60
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
>
>
```

Q2

```
>
>
> data=c(24.6,20.5,27.6,16.1,16.1,24.8,27.2,28.7,22.6,14.9,16.9,22.4,38.4,39.4,36.7,19.5,15.3,26.2,28.4,30.9,34.8,14.0,17.6,22.5)
> blocks=gl(4,6)
> treatments=gl(6,1,24)
> rbdfit=aov(data~blocks+treatments)
> rbdfit
Call:
   aov(formula = data ~ blocks + treatments)

Terms:
                  blocks treatments Residuals
Sum of Squares  219.4279   901.1921  229.6396
Deg. of Freedom        3          5        15

Residual standard error: 3.912711
Estimated effects may be unbalanced
> summary.aov(rbdfit)
            Df Sum Sq Mean Sq F value   Pr(>F)
blocks       3  219.4   73.14   4.778   0.0157 *
treatments   5  901.2  180.24  11.773 9.28e-05 ***
Residuals   15  229.6   15.31
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
> print("Pranav Murthy || 21BBS0059")
[1] "Pranav Murthy || 21BBS0059"
>
```

Pranav Murthy || 21BBS0059

MAT2005 – DA3

Q1)

H_0: Mean =14.5

H_1: Mean != 14.5

R Code

```
>  print("21BBS0059 || Pranav Murthy")
[1] "21BBS0059 || Pranav Murthy"
>
> m0=14.5
> xbar=13.6
> sigma=2.5
> n=40
> z=(xbar-m0)/(sigma/sqrt(n))
> z
[1] -2.27684
> alpha=0.05
> z.alpha=qnorm(1-alpha)
> z.alpha
[1] 1.644854
>
```

Interpretation

Since

|z|>|z.aplha|

hence H_0 is rejected.

Mean is not 14.5kg

Q2)

H_0: The proportion of rotten bananas in harvest stays below 11% a year

H_1: The proportion of rotten bananas in harvest is above 11% a year

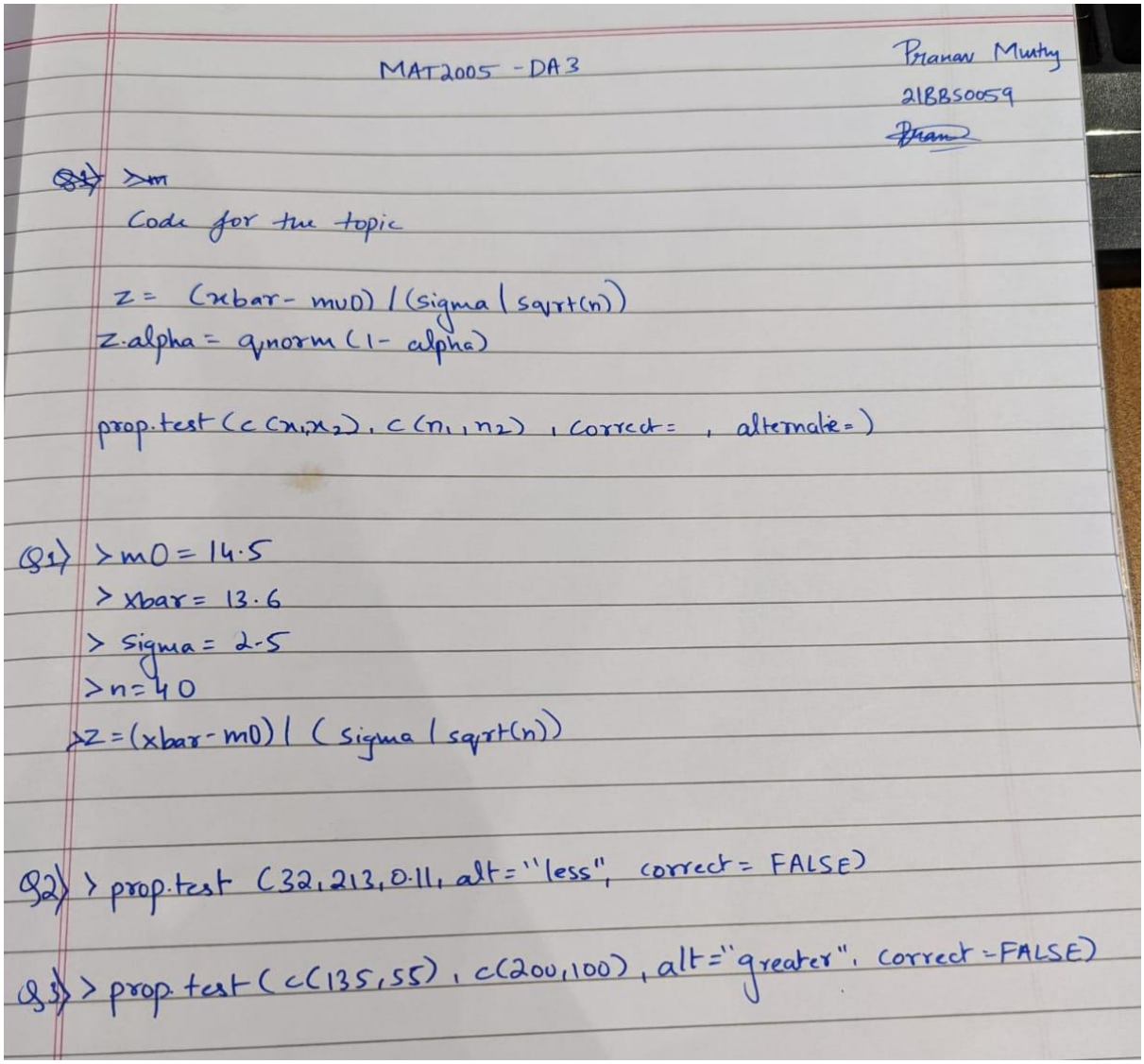
Code

```
> prop.test(33,213,0.11,alt="less",correct=FALSE)

    1-sample proportions test without continuity correction

data:  33 out of 213, null probability 0.11
X-squared = 4.392, df = 1, p-value = 0.9819
alternative hypothesis: true p is less than 0.11
95 percent confidence interval:
 0.000000 0.200012
sample estimates:
        p
0.1549296

>
```

Q3)
Code

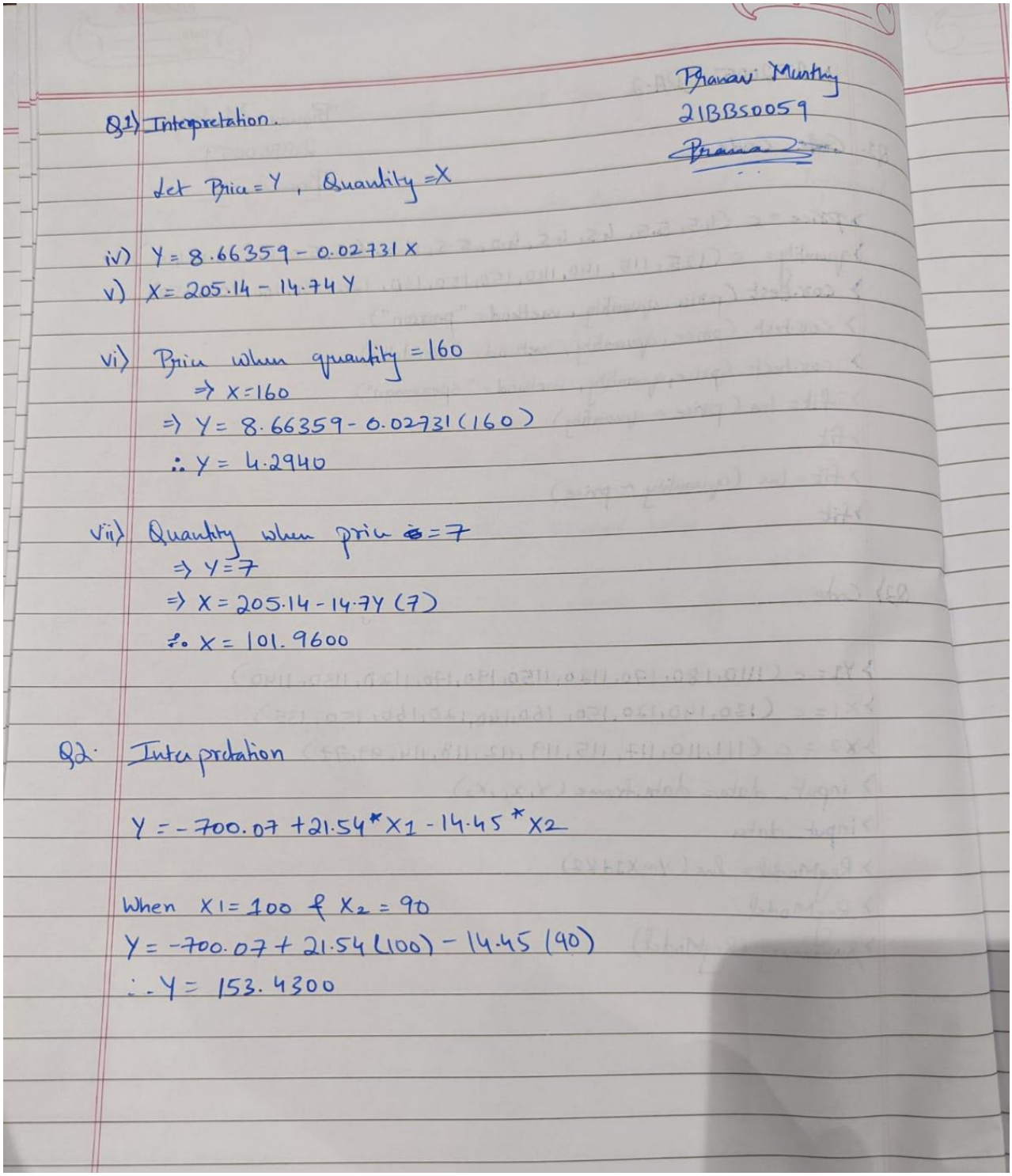
```
> prop.test(c(135,55),c(200,100),alt="greater",correct=FALSE)

    2-sample test for equality of proportions without continuity correction

data:  c(135, 55) out of c(200, 100)
X-squared = 4.4856, df = 1, p-value = 0.01709
alternative hypothesis: greater
95 percent confidence interval:
 0.02669505 1.00000000
sample estimates:
prop 1 prop 2
 0.675  0.550

>
```

Notebook:



MAT2005 – DA2

Code-



Pranav Murthy
21BBS0059
Pranav

Q1) Interpretation.

Let Price = Y, Quantity = X

iv) $Y = 8.66359 - 0.02731X$

v) $X = 205.14 - 14.74Y$

vi) Price when quantity = 160

$\Rightarrow X = 160$

$\Rightarrow Y = 8.66359 - 0.02731(160)$

$\therefore Y = 4.2940$

vii) Quantity when price = 7

$\Rightarrow Y = 7$

$\Rightarrow X = 205.14 - 14.74Y(7)$

$\therefore X = 101.9600$

Q2. Interpretation

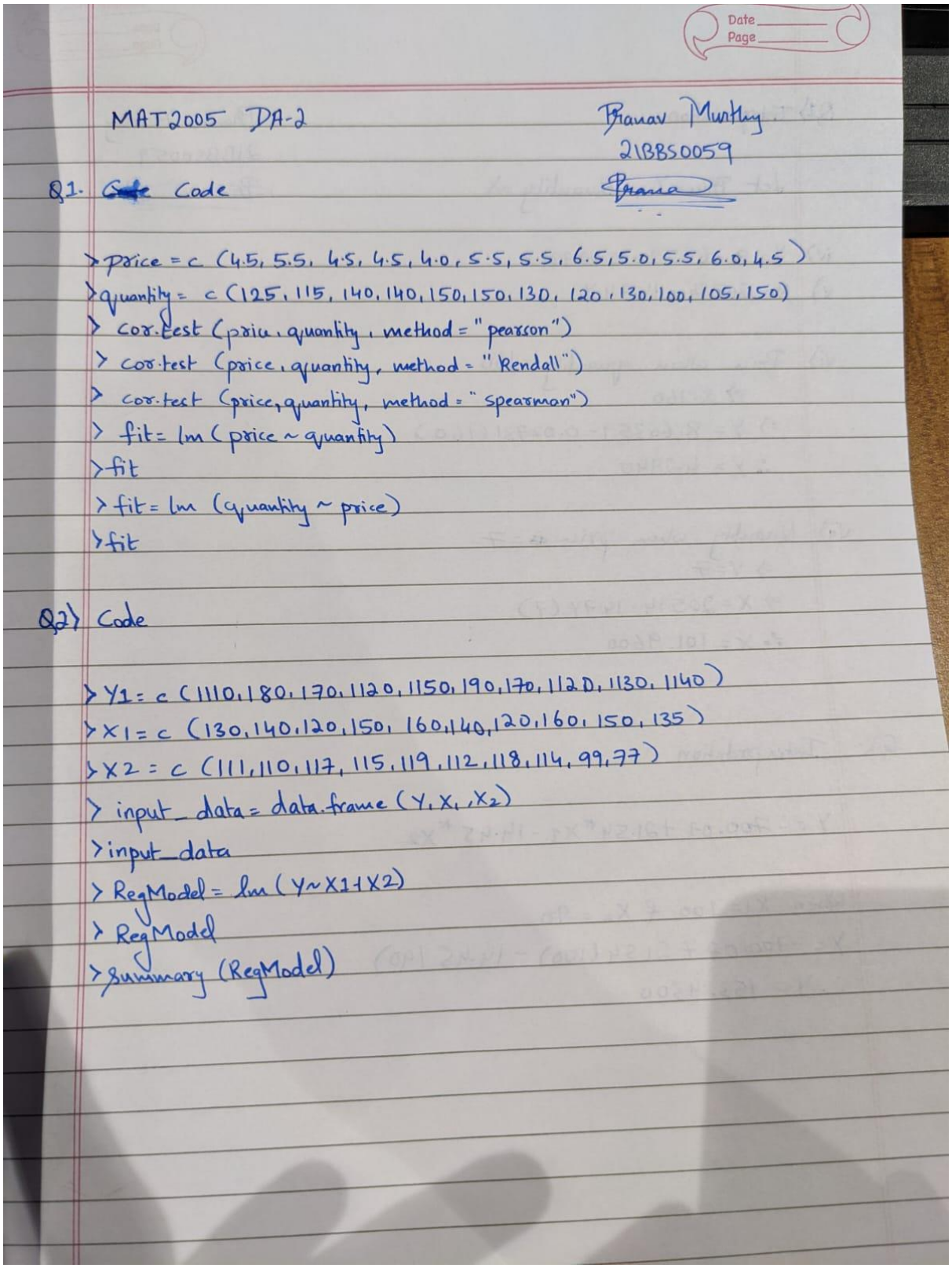
$Y = -700.07 + 21.54 * X_1 - 14.45 * X_2$

When $X_1 = 100$ & $X_2 = 90$

$Y = -700.07 + 21.54(100) - 14.45(90)$

$\therefore Y = 153.4300$

Interpretation-



MAT2005 DA-2

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Q1. Code

```
> price = c (4.5, 5.5, 4.5, 4.5, 4.0, 5.5, 5.5, 6.5, 5.0, 5.5, 6.0, 4.5)
> quantity = c (125, 115, 140, 140, 150, 150, 130, 120, 130, 100, 105, 150)
> cor.test (price, quantity, method = "pearson")
> cor.test (price, quantity, method = "Kendall")
> cor.test (price, quantity, method = "spearman")
> fit = lm (price ~ quantity)
> fit
> fit = lm (quantity ~ price)
> fit
```

Q2) Code

```
> Y1 = c (1110, 180, 170, 1120, 1150, 190, 170, 1120, 1130, 1140)
> X1 = c (130, 140, 120, 150, 160, 140, 120, 160, 150, 135)
> X2 = c (111, 110, 117, 115, 119, 112, 118, 114, 99, 77)
> input_data = data.frame (Y, X1, X2)
> input_data
> RegModel = lm (Y ~ X1 + X2)
> RegModel
> summary (RegModel)
```

R console Code –

1.

```
> print("PRANAV MURTHY || 21BBS0059")
[1] "PRANAV MURTHY || 21BBS0059"
> price=c(4.5,5.5,4.5,4.5,4.0,5.5,5.5,6.5,5.0,5.5,6.0,4.5)
> quantity=c(125,115,140,140,150,150,130,120,130,100,105,150)
> cor.test(price,quantity,method="pearson")

    Pearson's product-moment correlation

data:  price and quantity
t = -2.5959, df = 10, p-value = 0.02668
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
 -0.88582895 -0.09527992
sample estimates:
      cor
-0.634487

> cor.test(price,quantity,method="kendall")

    Kendall's rank correlation tau

data:  price and quantity
z = -2.173, p-value = 0.02978
alternative hypothesis: true tau is not equal to 0
sample estimates:
       tau
-0.5227084

Warning message:
In cor.test.default(price, quantity, method = "kendall") :
  Cannot compute exact p-value with ties
> cor.test(price,quantity,method="spearman")

    Spearman's rank correlation rho

data:  price and quantity
S = 472.01, p-value = 0.02202
alternative hypothesis: true rho is not equal to 0
sample estimates:
      rho
-0.650397

Warning message:
In cor.test.default(price, quantity, method = "spearman") :
  Cannot compute exact p-value with ties
> fit =lm(price~quantity)
> fit

Call:
lm(formula = price ~ quantity)

Coefficients:
(Intercept)     quantity
    8.66359     -0.02731

> fit=lm(quantity~price)
> fit

Call:
lm(formula = quantity ~ price)

Coefficients:
(Intercept)        price
     205.14       -14.74

> |
```

Interpretation –

Let Price = Y, Quantity = X

Y=8.66359 - 0.02731X

X=205.14 - 14.74Y

Price when Quantity = 160

- ⇨ Price = 8.66359 – 0.02731*160
- ⇨ Price = 4.2940

Quantity when Price = 7

- ⇨ Quantity = 205.14 – 14.74*7
- ⇨ Quantity = 101.9600

2.

```
> print("PRANAV MURTHY || 21BBS0059")
[1] "PRANAV MURTHY || 21BBS0059"
> Y=c(1110,180,170,1120,1150,190,170,1120,1130,1140)
> X1=c(130,140,120,150,160,140,120,160,150,135)
> X2=c(111,110,117,115,119,112,118,114,99,77)
> inout_data=data.frame(Y,X1,X2)
> input_data=data.frame(Y,X1,X2)
> input_data
      Y  X1  X2
1  1110 130 111
2   180 140 110
3   170 120 117
4  1120 150 115
5  1150 160 119
6   190 140 112
7   170 120 118
8  1120 160 114
9  1130 150  99
10 1140 135  77
> RegModel=lm(Y~X1 + X2, data=input_data)
> RegModel

Call:
lm(formula = Y ~ X1 + X2, data = input_data)

Coefficients:
(Intercept)           X1           X2
    -700.07        21.54       -14.45

> summary(RegModel)

Call:
lm(formula = Y ~ X1 + X2, data = input_data)

Residuals:
    Min      1Q  Median      3Q     Max
-545.67  -20.05   25.63  103.96  614.20

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) -700.067   1614.841  -0.434   0.6777
X1            21.541      8.687   2.480   0.0422 *
X2           -14.455     10.024  -1.442   0.1925
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 380.6 on 7 degrees of freedom
Multiple R-squared:  0.5329,  Adjusted R-squared:  0.3994
F-statistic: 3.993 on 2 and 7 DF,  p-value: 0.06966

>
```

Interpretation –

Y=-700.07 +21.54*X1 -14.45*X2

When X1=100 and X2=90

- ⇨ Y= -700.07 +21.54*100 -14.45*90
- ⇨ Y=153.4300

MAT2005 DA1

1. Write all the basics of R-LAB in your note book .

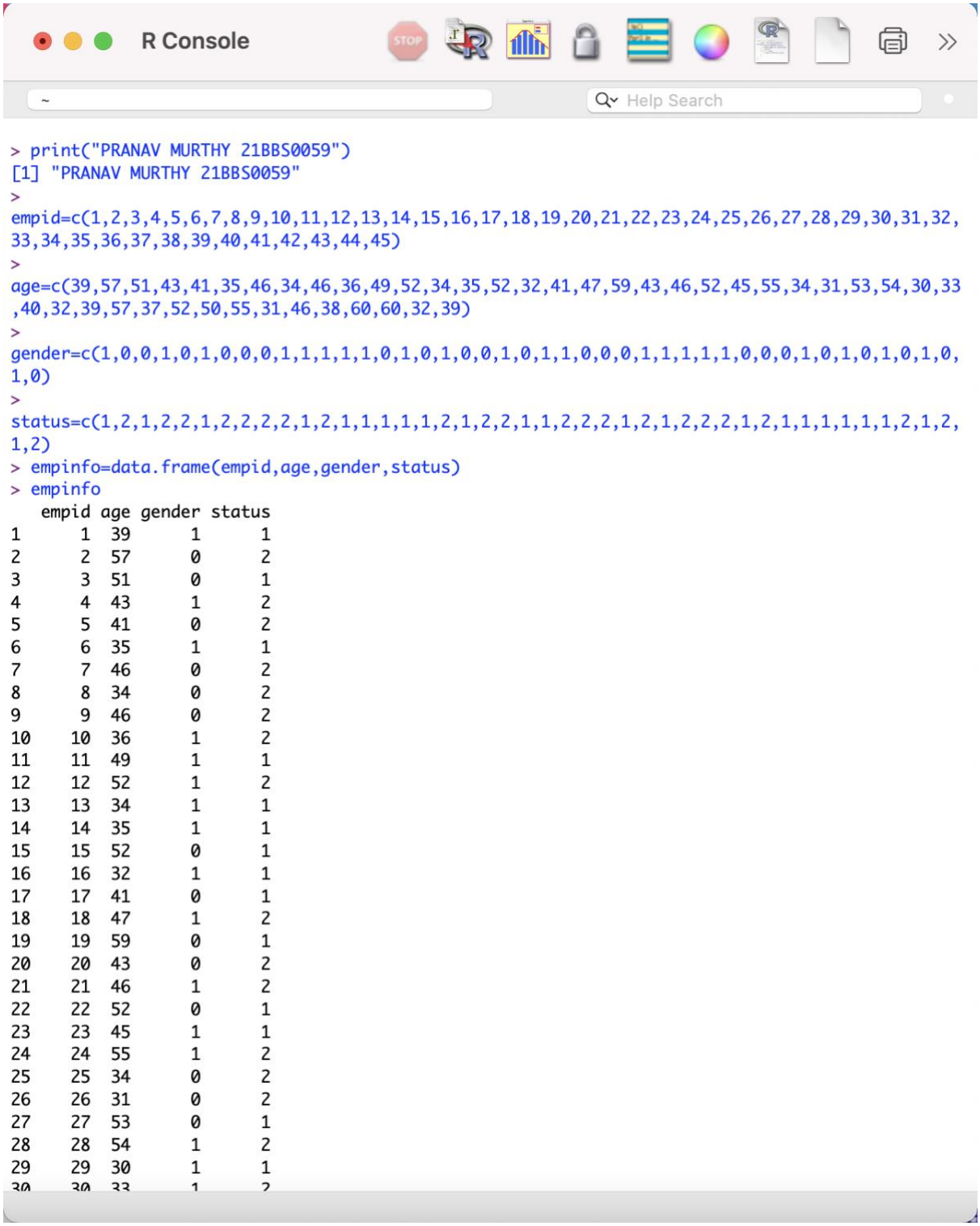
CODE

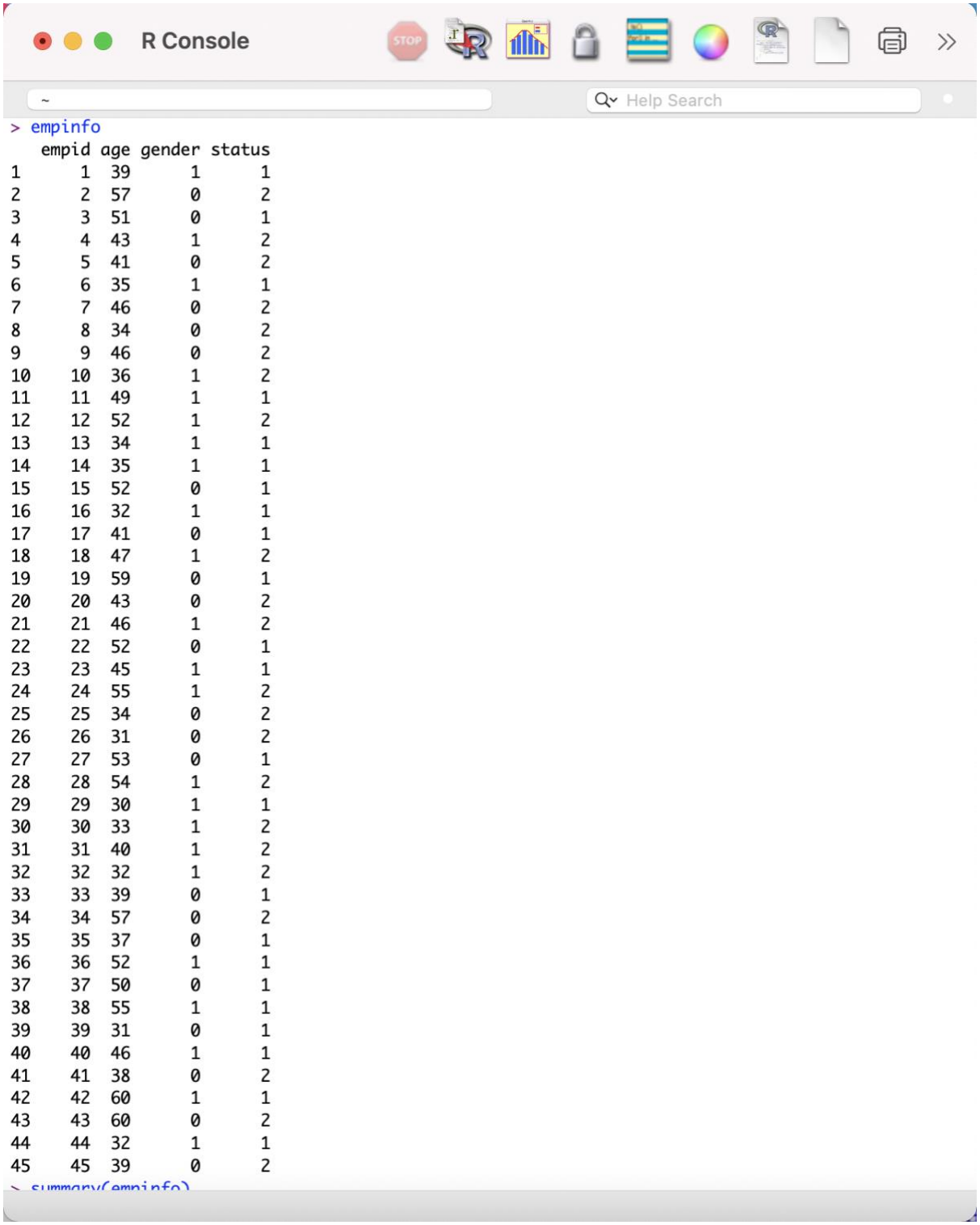
```
> print("21BBS0059 Pranav Murthy")
[1] "21BBS0059 Pranav Murthy"
> 31*78
[1] 2418
> 697/41
[1] 17
> x=39
> x
[1] 39
> y=22
> y
[1] 22
> z=x-y
> z
[1] 17
> log2(sqrt(2345))
[1] 5.597686
> x=10
> y=20
> x*y
[1] 200
> z=x*y
> z
[1] 200
> x=c(1,2,3,4,5)
> x
[1] 1 2 3 4 5
> 2+3
[1] 5
> 2-3
[1] -1
> 2*3
[1] 6
> 2/3
[1] 0.6666667
> 2*3-4+5/6
[1] 2.833333
> 2^3
[1] 8
> 2**0.5
[1] 1.414214
> 2**-0.5
[1] 0.7071068
> 2**3**2
[1] 512
> 2^(3^2)
[1] 512
> c(2,3,5,7)**2
[1]  4  9 25 49
> c(1,2,3,4,5,6,7)**c(2,3,4)
```

```
[1]    1    8   81   16  125 1296   49
Warning message:
In c(1, 2, 3, 4, 5, 6, 7)^c(2, 3, 4) :
  longer object length is not a multiple of shorter object length
> c(1,2,3,4,5,6)**c(2,3,4)
[1]    1    8   81   16  125 1296
> c(1,2,3,4,5)%%2
[1] 1 0 1 0 1
> c(1,2,3,4,5)%/%2
[1] 0 1 1 2 2
> max(1.2,3.4,-7.8)
[1] 3.4
> min(1.2,3.4,-7.8)
[1] -7.8
> abs(-4)
[1] 4
> sqrt(4)
[1] 2
> prod(c(2,3,4,5,6))
[1] 720
> round(1.83)
[1] 2
> round(1.23)
[1] 1
> log(10)
[1] 2.302585
> log10(10)
[1] 1
> log(9,base=3)
[1]
```

2. Create a data frame for 45 employees consisting the details for (i) empid(ii)age (iii) genderand (iv) status and perform thesummary of statistics which includes (i) tables for the data (ii) bar diagram and (iii) pie chart (iv) scatter plot for age .

Code






```
> empinfo
   empid age gender status
1      1  39      1      1
2      2  57      0      2
3      3  51      0      1
4      4  43      1      2
5      5  41      0      2
6      6  35      1      1
7      7  46      0      2
8      8  34      0      2
9      9  46      0      2
10    10  36      1      2
11    11  49      1      1
12    12  52      1      2
13    13  34      1      1
14    14  35      1      1
15    15  52      0      1
16    16  32      1      1
17    17  41      0      1
18    18  47      1      2
19    19  59      0      1
20    20  43      0      2
21    21  46      1      2
22    22  52      0      1
23    23  45      1      1
24    24  55      1      2
25    25  34      0      2
26    26  31      0      2
27    27  53      0      1
28    28  54      1      2
29    29  30      1      1
30    30  33      1      2
31    31  40      1      2
32    32  32      1      2
33    33  39      0      1
34    34  57      0      2
35    35  37      0      1
36    36  52      1      1
37    37  50      0      1
38    38  55      1      1
39    39  31      0      1
40    40  46      1      1
41    41  38      0      2
42    42  60      1      1
43    43  60      0      2
44    44  32      1      1
45    45  39      0      2
> summary(empinfo)
```

R Console

```
45    45  39      0      2
> summary(empinfo)
     empid          age            gender           status
 Min.   : 1   Min.   :30.00   Min.   :0.0000   Min.   :1.000
 1st Qu.:12   1st Qu.:35.00   1st Qu.:0.0000   1st Qu.:1.000
 Median :23   Median :43.00   Median :1.0000   Median :1.000
 Mean   :23   Mean   :43.84   Mean   :0.5111   Mean   :1.489
 3rd Qu.:34   3rd Qu.:52.00   3rd Qu.:1.0000   3rd Qu.:2.000
 Max.   :45   Max.   :60.00   Max.   :1.0000   Max.   :2.000
> bargraph=table(empinfo$gender,empinfo$status)
> barplot(table5,beside=T,xlim=c(1,45),ylim=c(0,5),c
ol=c("blue","red"),legend=rownames(bargraph))
Error: unexpected symbol in "barplot(table5,beside=T,xlim=c(1,45),ylim=c(0,5),c ol"
> piechart=table(empinfo$gender)
> pie(piechart)
> summary(empinfo$age)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  30.00   35.00   43.00   43.84   52.00   60.00
> empinfo$gender=factor(empinfo$gender,labels=c("male","female"))
> pie(piechart)
> pie(piechart)
> piechart=table(empinfo$gender)
> pie(piechart)
> empinfo$status=factor(empinfo$status,labels=c("staff" ,"faculty"))
> empinfo
   empid age gender  status
1      1  39 female   staff
2      2  57   male faculty
3      3  51   male   staff
4      4  43 female faculty
5      5  41   male faculty
6      6  35 female   staff
7      7  46   male faculty
8      8  34   male faculty
9      9  46   male faculty
10    10  36 female faculty
11    11  49 female   staff
12    12  52 female faculty
13    13  34 female   staff
14    14  35 female   staff
15    15  52   male   staff
16    16  32 female   staff
17    17  41   male   staff
18    18  47 female faculty
19    19  59   male   staff
20    20  43   male faculty
21    21  46 female faculty
```

R Console

```
45    45  39      0      2
> summary(empinfo)
     empid          age            gender           status
 Min.   : 1   Min.   :30.00   Min.   :0.0000   Min.   :1.000
 1st Qu.:12   1st Qu.:35.00   1st Qu.:0.0000   1st Qu.:1.000
 Median :23   Median :43.00   Median :1.0000   Median :1.000
 Mean   :23   Mean   :43.84   Mean   :0.5111   Mean   :1.489
 3rd Qu.:34   3rd Qu.:52.00   3rd Qu.:1.0000   3rd Qu.:2.000
 Max.   :45   Max.   :60.00   Max.   :1.0000   Max.   :2.000
> bargraph=table(empinfo$gender,empinfo$status)
> barplot(table5,beside=T,xlim=c(1,45),ylim=c(0,5),c
ol=c("blue","red"),legend=rownames(bargraph))
Error: unexpected symbol in "barplot(table5,beside=T,xlim=c(1,45),ylim=c(0,5),c ol"
> piechart=table(empinfo$gender)
> pie(piechart)
> summary(empinfo$age)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  30.00   35.00   43.00   43.84   52.00   60.00
> empinfo$gender=factor(empinfo$gender,labels=c("male","female"))
> pie(piechart)
> pie(piechart)
> piechart=table(empinfo$gender)
> pie(piechart)
> empinfo$status=factor(empinfo$status,labels=c("staff" ,"faculty"))
> empinfo
   empid age gender  status
1      1  39 female   staff
2      2  57   male faculty
3      3  51   male   staff
4      4  43 female faculty
5      5  41   male faculty
6      6  35 female   staff
7      7  46   male faculty
8      8  34   male faculty
9      9  46   male faculty
10    10  36 female faculty
11    11  49 female   staff
12    12  52 female faculty
13    13  34 female   staff
14    14  35 female   staff
15    15  52   male   staff
16    16  32 female   staff
17    17  41   male   staff
18    18  47 female faculty
19    19  59   male   staff
20    20  43   male faculty
21    21  46 female faculty
```

R Console

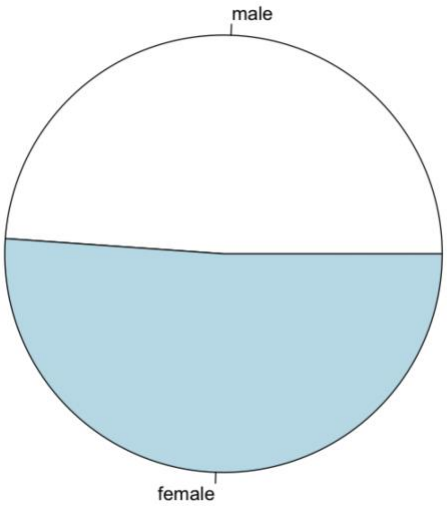
~

Help Search

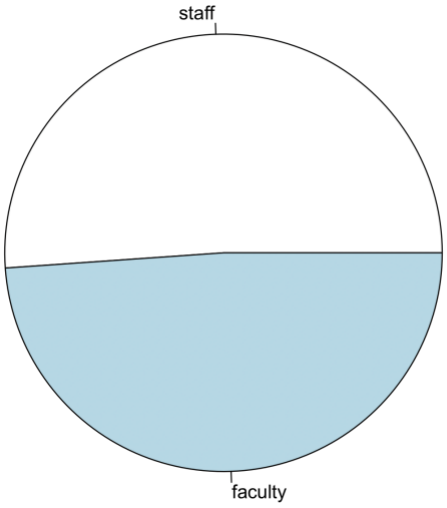
```
> empinfo
   empid age gender  status
1      1  39 female   staff
2      2  57   male faculty
3      3  51   male   staff
4      4  43 female faculty
5      5  41   male faculty
6      6  35 female   staff
7      7  46   male faculty
8      8  34   male faculty
9      9  46   male faculty
10    10  36 female faculty
11    11  49 female   staff
12    12  52 female faculty
13    13  34 female   staff
14    14  35 female   staff
15    15  52   male   staff
16    16  32 female   staff
17    17  41   male   staff
18    18  47 female faculty
19    19  59   male   staff
20    20  43   male faculty
21    21  46 female faculty
22    22  52   male   staff
23    23  45 female   staff
24    24  55 female faculty
25    25  34   male faculty
26    26  31   male faculty
27    27  53   male   staff
28    28  54 female faculty
29    29  30 female   staff
30    30  33 female faculty
31    31  40 female faculty
32    32  32 female faculty
33    33  39   male   staff
34    34  57   male faculty
35    35  37   male   staff
36    36  52 female   staff
37    37  50   male   staff
38    38  55 female   staff
39    39  31   male   staff
40    40  46 female   staff
41    41  38   male faculty
42    42  60 female   staff
43    43  60   male faculty
44    44  32 female   staff
45    45  39   male faculty
> statuspie=table(empinfo$status)
```


R Console
Help Search
37 37 50 male staff
38 38 55 female staff
39 39 31 male staff
40 40 46 female staff
41 41 38 male faculty
42 42 60 female staff
43 43 60 male faculty
44 44 32 female staff
45 45 39 male faculty
> statuspie=table(empinfo$status)
> pie(statuspie)
> plot(empinfo$age,empinfo$, main="Age vs gender", xlab="age", ylab="gender", col="red")
Error: unexpected ',' in "plot(empinfo$age,empinfo$,"
> plot(empinfo$age,empinfo$gender, main="Age vs gender", xlab="age", ylab="gender", col="red")
> plot(empinfo$age,y, main="Age vs gender", xlab="age", ylab="gender", col="red")
Error in xy.coords(x, y, xlabel, ylabel, log) :
'x' and 'y' lengths differ
> plot(empinfo$age,empinfo$empid, main="Age vs id", xlab="age", ylab="empid", col="red")
> tablebar=table(empinfo$gender,empinfo$status)
> barplot(tablebar,beside=T, xlim=c(1,15), ylim=c(0,15),col=("blue","red"),
legend=rownames(tablebar))
Error: unexpected ',' in "barplot(tablebar,beside=T, xlim=c(1,15), ylim=c(0,15),col=("blue","
> barplot(tablebar,beside=T, xlim=c(1,15), ylim=c(0,15),col=c("blue","red"),
legend=rownames(tablebar))
> barplot(tablebar,beside=T, xlim=c(1,45), ylim=c(0,15),col=c("blue","red"),
legend=rownames(tablebar))
> barplot(tablebar,beside=T, xlim=c(1,15), ylim=c(0,15),col=c("blue","red"),
legend=rownames(tablebar))
> boxplot(empinfo$age~empinfo$status,col=c("red","blue"))
> plot(empinfo$age,type="l",main="age of subjects",xlab="empid",ylab="age in years",col="blue")
> onewaytable=table(empinfo$gender)
> onewaytable
male female
22 23
> onewaytablestat=table(empinfo$status)
> onewaytablestat
staff faculty
23 22
> twowaytable=table(empinfo$gender,empinfo$status)
> twowaytable
staff faculty
male 10 12
female 13 10
>

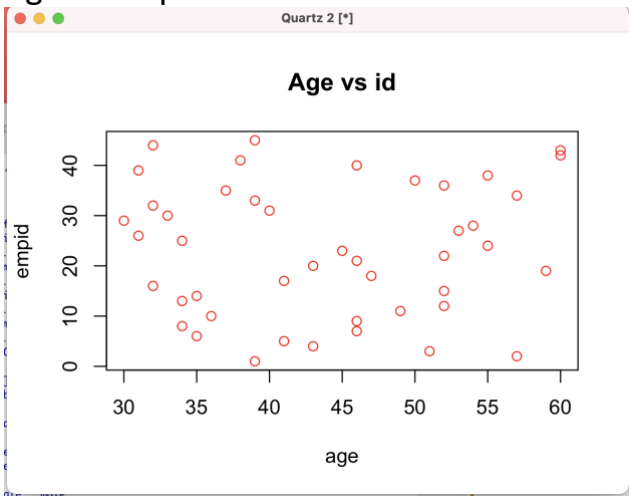
Pie Chart
Male and Female



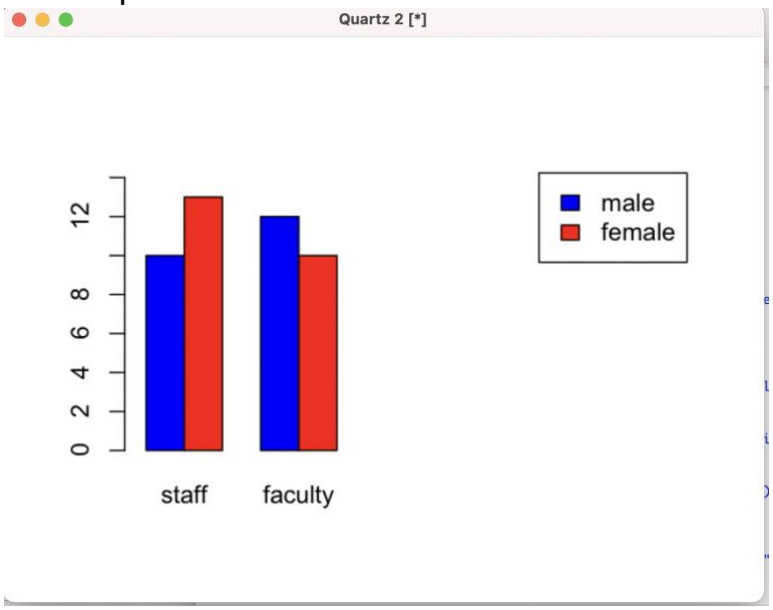
Status



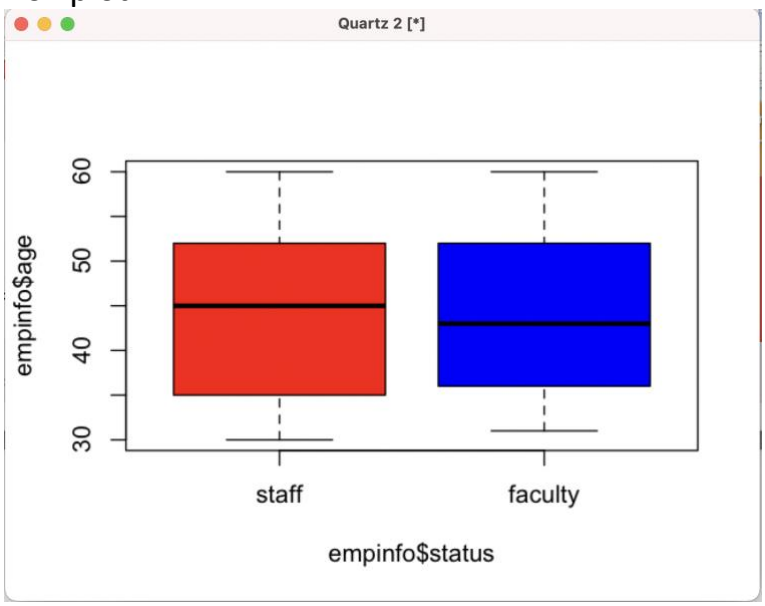
Scatter plot
Age vs empid



Bar Graph



Box plot



Line Graph