d1* | Write a R program to extract the five of... | Load inbuild dataset "ChickWeight" in ... | day 4 prg 3.R

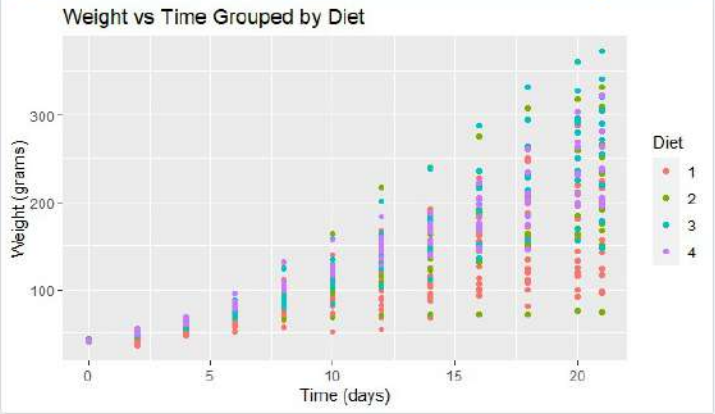
Source on Save | Run | Source

```r
#3i)
da=ChickWeight

summary(da)
#ii)
boxplot(weight ~ Diet,da=ChickWeight,main ="Weight by
Diet",
        xlab="Diet",ylab="Weight")
#iii)
diet1=d[d$Diet == 1, ]
hist(diet1$weight, main = "Histogram of Weight in Diet-1
Category",
     xlab = "Weight (in grams)", ylab = "Frequency")
#iv)
diet2=d[d$Diet == 4, ]
hist(diet2$weight, main = "Histogram of Weight in Diet-1
Category",
     xlab = "Weight (in grams)", ylab = "Frequency")
#v)
library(ggplot2)
ggplot(d, aes(x = Time, y = weight, color = Diet)) +
  geom_point() +
  ggtitle("Weight vs Time Grouped by Diet") +
  xlab("Time (days)") +
  ylab("Weight (grams)")
```

1:1 (Top Level) R Script

```
> #3i)
> da=ChickWeight
>
> summary(da)
     weight           Time           Chick     Diet
 Min.   : 35.0   Min.   : 0.00   13     : 12   1:220
 1st Qu.: 63.0   1st Qu.: 4.00   9      : 12   2:120
 Median :103.0   Median :10.00   20     : 12   3:120
 Mean   :121.8   Mean   :10.72   10     : 12   4:118
 3rd Qu.:163.8   3rd Qu.:16.00   17     : 12
 Max.   :373.0   Max.   :21.00   19     : 12
                                 (other):506
> #ii)
> boxplot(weight ~ Diet,da=ChickWeight,main ="Weight by
+ Diet",
+         xlab="Diet",ylab="Weight")
> #iii)
> diet1=d[d$Diet == 1, ]
> hist(diet1$weight, main = "Histogram of Weight in Diet-1
+ Category",
+      xlab = "Weight (in grams)", ylab = "Frequency")
> #iv)
> diet2=d[d$Diet == 4, ]
> hist(diet2$weight, main = "Histogram of Weight in Diet-1
+ Category",
+      xlab = "Weight (in grams)", ylab = "Frequency")
> #v)
> library(ggplot2)
> ggplot(d, aes(x = Time, y = weight, color = Diet)) +
+   geom_point() +
+   ggtitle("Weight vs Time Grouped by Diet") +
+   xlab("Time (days)") +
+   ylab("weight (grams)")
>
```

```
diet2=d[d$Diet == 4, ]
hist(diet2$weight, main = "Histogram of Weight in Diet-1
Category",
xlab = "Weight (in grams)", ylab = "Frequency")
#v)
library(ggplot2)
ggplot(d, aes(x = Time, y = weight, color = Diet)) +
geom_point() +
ggtitle("Weight vs Time Grouped by Diet") +
xlab("Time (days)") +
ylab("weight (grams)")
```



rogram to extract the five of... | Load inbuild dataset "ChickWeight" in ... | day 4 prg 3.R* | day 4 prg 4.R

Source on Save | Run | Source

```
1  #4
2  dat=ChickWeight
3  #i)
4  model=lm(weight ~ Time+factor(Diet),dat=ChickWeight)
5  summary(model)
6  #ii)
7  ndata=data.frame(Time = 10,Diet=1)
8
9  prediction=predict(model,newdata = ndata)
10 prediction
11 #iii)
12 error=dat[dat$Time==10&dat$Diet==1,"weight"] - prediction
13 error
```

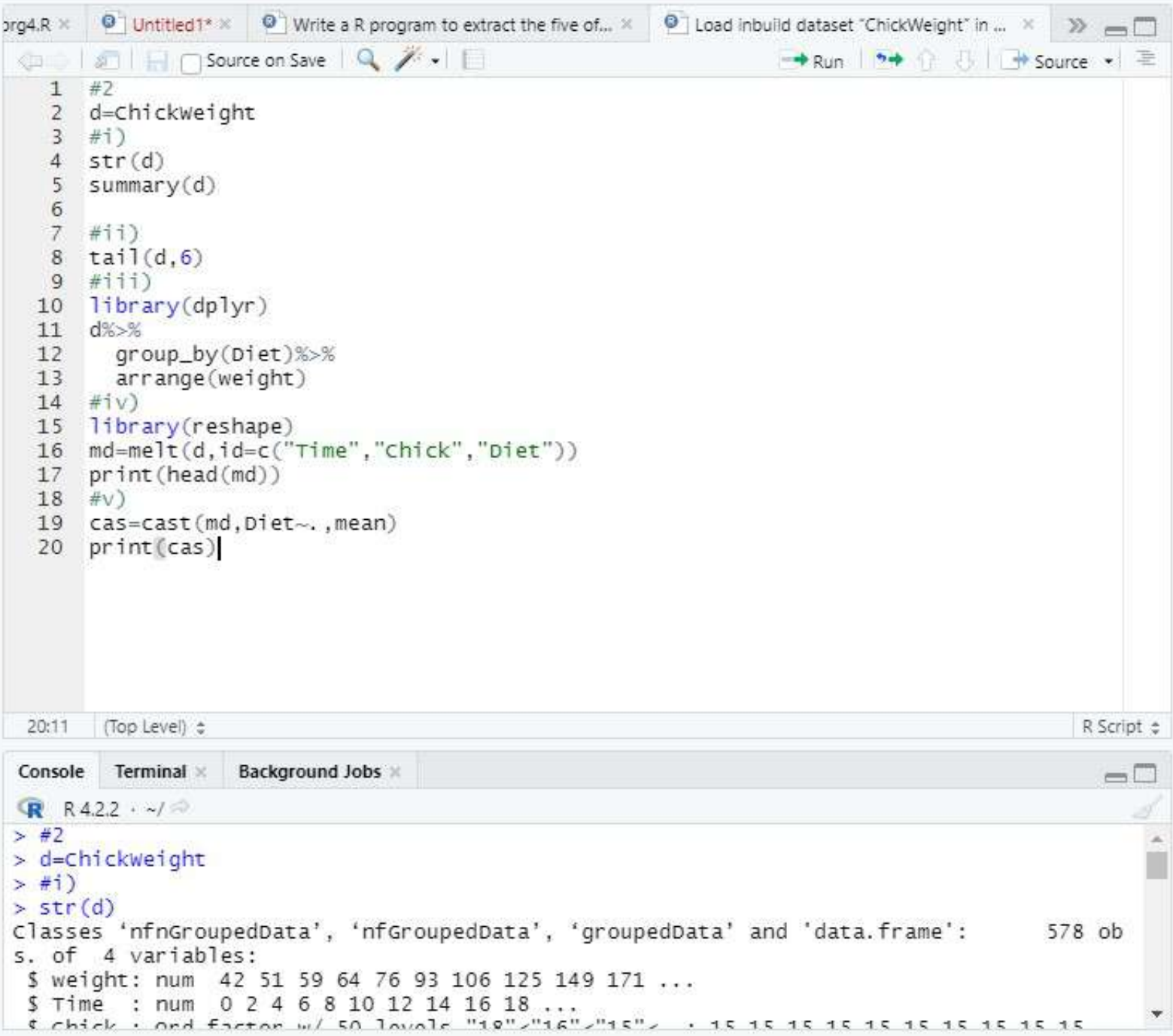
13:6 (Top Level) R Script

Source

Console | Terminal | Background Jobs

R 4.2.2 · ~/

```
> #4
> dat=ChickWeight
> #i)
> model=lm(weight ~ Time+factor(Diet),dat=ChickWeight)
> summary(model)

Call:
lm(formula = weight ~ Time + factor(Diet), data = ChickWeight)

Residuals:
     Min       1Q   Median       3Q      Max
-136.851  -17.151   -2.595   15.033  141.816

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)    10.9244     3.3607   3.251  0.00122 **
Time            8.7505     0.2218  39.451  < 2e-16 ***
factor(Diet)2  16.1661     4.0858   3.957 8.56e-05 ***
factor(Diet)3  36.4994     4.0858   8.933  < 2e-16 ***
factor(Diet)4  30.2335     4.1075   7.361 6.39e-13 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 35.99 on 573 degrees of freedom
Multiple R-squared:  0.7453,    Adjusted R-squared:  0.7435
F-statistic: 419.2 on 4 and 573 DF,  p-value: < 2.2e-16

> #ii)
> ndata=data.frame(Time = 10,Diet=1)
>
> prediction=predict(model,newdata = ndata)
> prediction
       1
98.42931
> #iii)
> error=dat[dat$Time==10&dat$Diet==1,"weight"] - prediction
> errorlibrary(dplyr)
```


org4.R
Untitled1*
Write a R program to extract the five of...
Load inbuild dataset "ChickWeight" in ...
Source on Save
Run
Source
#2
d=Chickweight
#i)
str(d)
summary(d)
#ii)
tail(d,6)
#iii)
library(dplyr)
d%>%
group_by(Diet)%>%
arrange(weight)
#iv)
library(reshape)
md=melt(d,id=c("Time","Chick","Diet"))
print(head(md))
#v)
cas=cast(md,Diet~.,mean)
print(cas)
20:11
(Top Level)
R Script
Console
Terminal
Background Jobs
R 4.2.2 · ~/
> #2
> d=Chickweight
> #i)
> str(d)
Classes 'nfnGroupedData', 'nfGroupedData', 'groupedData' and 'data.frame': 578 ob
s. of 4 variables:
$ weight: num 42 51 59 64 76 93 106 125 149 171 ...
$ Time : num 0 2 4 6 8 10 12 14 16 18 ...

Source

Console | Terminal | Background Jobs

R 4.2.2 · ~/

```
> #2
> d=ChickWeight
> #i)
> str(d)
Classes 'nfnGroupedData', 'nfGroupedData', 'groupedData' and 'data.frame':      578 ob
s. of  4 variables:
 $ weight: num  42 51 59 64 76 93 106 125 149 171 ...
 $ Time  : num  0 2 4 6 8 10 12 14 16 18 ...
 $ Chick : Ord.factor w/ 50 levels "18"<"16"<"15"<..: 15 15 15 15 15 15 15 15 15 15 ...
 $ Diet  : Factor w/ 4 levels "1","2","3","4": 1 1 1 1 1 1 1 1 1 1 ...
 - attr(*, "formula")=Class 'formula'  language weight ~ Time | Chick
  .. ..- attr(*, ".Environment")=<environment: R_EmptyEnv>
 - attr(*, "outer")=Class 'formula'  language ~Diet
  .. ..- attr(*, ".Environment")=<environment: R_EmptyEnv>
 - attr(*, "labels")=List of 2
  ..$ x: chr "Time"
  ..$ y: chr "Body weight"
 - attr(*, "units")=List of 2
  ..$ x: chr "(days)"
  ..$ y: chr "(gm)"
> summary(d)
     weight           Time           Chick     Diet
 Min.   : 35.0   Min.   : 0.00   13     : 12   1:220
 1st Qu.: 63.0   1st Qu.: 4.00   9      : 12   2:120
 Median :103.0   Median :10.00   20     : 12   3:120
 Mean   :121.8   Mean   :10.72   10     : 12   4:118
 3rd Qu.:163.8   3rd Qu.:16.00   17     : 12
 Max.   :373.0   Max.   :21.00   19     : 12
                                 (Other):506
>
> #ii)
> tail(d,6)
Grouped Data: weight ~ Time | Chick
    weight Time Chick Diet
573    155   12    50    4
574    175   14    50    4
575    205   16    50    4
```

highest an... | Airquality.R | day4 prg4.R | Untitled1* | Write a R program to extract the five of...

Source on Save | Run | Source

```
1  #1i)
2  sample1=sample(LETTERS, 5)
3  samplef=factor(sample1)
4  fflevel=levels(samplef)[1:5]
5  print(fflevel)
6  #ii)
7  e=c(1:9)
8  s=max(e)
9  t=min(e)
10 r=s-t
11 print(r)
12 #iii)
13 str1="Matrix"
14 str2=strsplit(str1,"")[[1]]
15 vowels=c("a","e","i","o","u","A","E","I","O","U")
16 vcount=0
17 for(char in str2)
18 {
19   if(char %in% vowels)
20
```

18:2 (Top Level) R Script

Console | Terminal | Background Jobs

R 4.2.2 · ~/

```
> #1i)
> sample1=sample(LETTERS, 5)
> samplef=factor(sample1)
> fflevel=levels(samplef)[1:5]
> print(fflevel)
[1] "C" "J" "N" "O" "S"
> #ii)
> e=c(1:9)
> s=max(e)
> t=min(e)
> r=s-t
> print(r)
[1] 8
> #iii)
> str1="Matrix"
```

highest an... | Airquality.R | day4 prg4.R | Untitled1* | Write a R program to extract the five of...

Source on Save | Run | Source

```r
#1i)
sample1=sample(LETTERS, 5)
samplef=factor(sample1)
fflevel=levels(samplef)[1:5]
print(fflevel)
#ii)
e=c(1:9)
s=max(e)
t=min(e)
r=s-t
print(r)
#iii)
str1="Matrix"
str2=strsplit(str1,"")[[1]]
vowels=c("a","e","i","o","u","A","E","I","O","U")
vcount=0
for(char in str2)
{
  if(char %in% vowels)

```

18:2 (Top Level) R Script

Console | Terminal | Background Jobs

R 4.2.2 · ~/

```
> str2=strsplit(str1,"")[[1]]
> vowels=c("a","e","i","o","u","A","E","I","O","U")
> vcount=0
> for(char in str2)
+ {
+   if(char %in% vowels)
+
+   {
+     vcount=vcount + 1
+   }
+ }
> print(vcount)
[1] 2
>
```