Homework 9 Redo

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1 Problem 2 Cherry tree data

1.1 Data:

1.2 Build a linear regression model.

Let
V = volume
D = diameter
H = height
Assuming that the tree is cylindrical:
$V = {}^{1}/_{4}\pi D^2 H$
$\ln V = \beta_0 + \beta_1 \ln H + \beta_2 \ln D + \epsilon$

1.3 Plot scatterplots of the data.

```
trees <- read.table("../Data/cherry.txt", header=T)
attach(trees)
plot(trees)
```

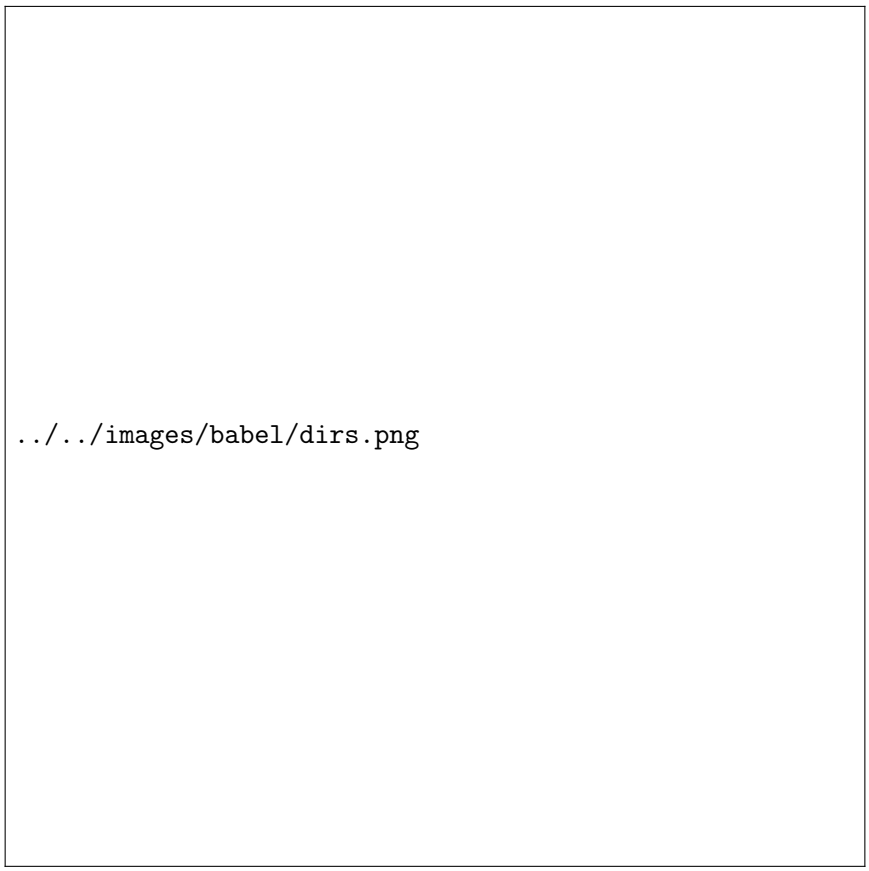
1.4 Solve the linear regression "by hand"

| | | | | -6.63
| | 1.12
| | 1.98
| | | | | |

2 Testing Org-Babel-R

```
cd ~ && du -sc * |grep -v total
```

```
pie(dirs[,1], labels = dirs[,2])
```




```
x*x
```

```
 36
```

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20

```
(defun fibonacci (n)
  (if (or (= n 0) (= n 1))
      n
    (+ (fibonacci (- n 1)) (fibonacci (- n 2)))))

(mapcar (lambda (row)
          (mapcar #'fibonacci row)) fib-inputs)
```

```
runif(n=5, min=0, max=1)
```

```
colMeans(x)
```

mean
#ERROR

x	y	z	sum
1	10	100	#ERROR
2	20	200	
3	30	300	

```
(setq debug-on-error t)
```

3 Scratchpad

Table 1: Diameter, Height, and Volume of Cherry Trees.

Diam	Height	Volume
8.3	70	10.3
8.6	65	10.3
8.8	63	10.2
10.5	72	16.4
10.7	81	18.8
10.8	83	19.7
11.0	66	15.6
11.0	75	18.2
11.1	80	22.6
11.2	75	19.9
11.3	79	24.2
11.4	76	21.0
11.4	76	21.4
11.7	69	21.3
12.0	75	19.1
12.9	74	22.2
12.9	85	33.8
13.3	86	27.4
13.7	71	25.7
13.8	64	24.9
14.0	78	34.5
14.2	80	31.7
14.5	74	36.3
16.0	72	38.3
16.3	77	42.6
17.3	81	55.4
17.5	82	55.7
17.9	80	58.3
18.0	80	51.5
18.0	80	51.0
20.6	87	77.0