R baseball

For the 2006 Seattle Mariners players below, enter these data into, create an R dataset, calculate each player's batting average (H/AB) and slugging average (TB/AB), and print the results using mean(), summary(). Calculate the mean batting average, and plot hits (H) versus at bats (AB) using `plot()`.

```
first=c('Ichiro', 'Kenji', 'Raul', 'Adrian')
last=c('Suzuki','Johjima','Ibanez','Beltre')
ab=c(695,506,626,620)
h=c(224,147,181,166)
tb=c(289,228,323,288)
```

You can make a dataset with all these vectors (not always necessary)

```
bball=data.frame(first,last,ab,h,tb)
bball
```

```
   first    last  ab   h  tb
1 Ichiro  Suzuki 695 224 289
2  Kenji Johjima 506 147 228
3   Raul  Ibanez 626 181 323
4 Adrian  Beltre 620 166 288
```

```
# View(bball)
```

Create new variables and dataset

```
bat=h/ab
slug=tb/ab
bb=data.frame(first,last,ab,h,tb,bat,slug)
bb
```

```
   first    last  ab   h  tb       bat      slug
1 Ichiro  Suzuki 695 224 289 0.3223022 0.4158273
2  Kenji Johjima 506 147 228 0.2905138 0.4505929
3   Raul  Ibanez 626 181 323 0.2891374 0.5159744
4 Adrian  Beltre 620 166 288 0.2677419 0.4645161
```

```
# View(bb)
```

There are many ways to find the mean of a vector

```
mean(bat)
```

```
[1] 0.2924238
```

```
summary(bat)
```

```
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
 0.2677  0.2838  0.2898  0.2924  0.2985  0.3223
```

```
summary(bb)
```

```
   first        last         ab              h               tb
 Adrian:1   Beltre :1   Min.   :506.0   Min.   :147.0   Min.   :228.0
 Ichiro:1   Ibanez :1   1st Qu.:591.5   1st Qu.:161.2   1st Qu.:273.0
 Kenji :1   Johjima:1   Median :623.0   Median :173.5   Median :288.5
 Raul  :1   Suzuki :1   Mean   :611.8   Mean   :179.5   Mean   :282.0
                        3rd Qu.:643.2   3rd Qu.:191.8   3rd Qu.:297.5
                        Max.   :695.0   Max.   :224.0   Max.   :323.0
     bat              slug
 Min.   :0.2677   Min.   :0.4158
 1st Qu.:0.2838   1st Qu.:0.4419
 Median :0.2898   Median :0.4576
 Mean   :0.2924   Mean   :0.4617
 3rd Qu.:0.2985   3rd Qu.:0.4774
 Max.   :0.3223   Max.   :0.5160
```

Plotting Hits vs. At Bats

```
plot(ab,h); title('Hits vs. At Bats')
```