Grades: STA220 Sec 0002 fall 2016
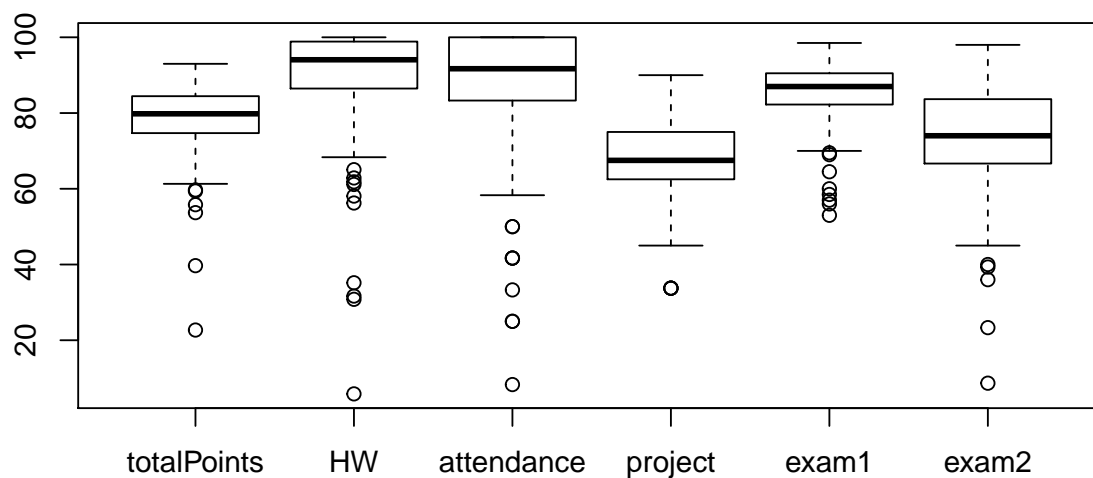
Bryan Milstead

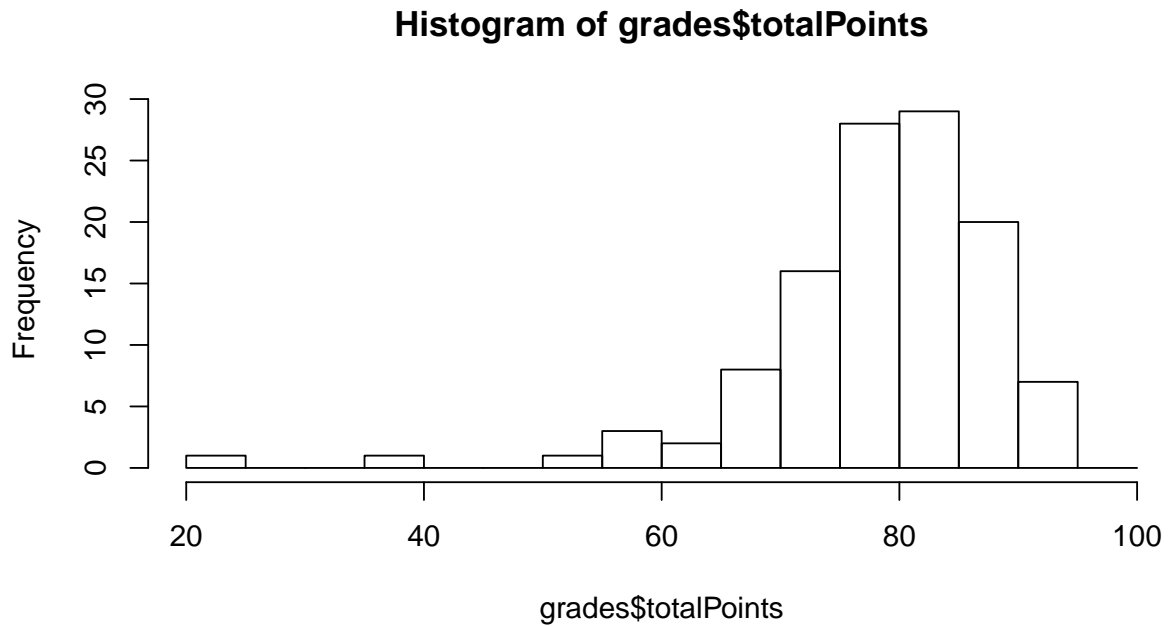*23 Dec 2016*

- read in the data (df=='grades')

- convert all scores to percents

- calc summary stats

```
##    totalPoints          HW            attendance        project
##  Min.   :22.70   Min.   :  5.84   Min.   :  8.30   Min.   :33.75
##  1st Qu.:74.70   1st Qu.: 86.49   1st Qu.: 83.30   1st Qu.:62.50
##  Median :79.80   Median : 94.07   Median : 91.70   Median :67.50
##  Mean   :78.14   Mean   : 88.87   Mean   : 86.57   Mean   :66.93
##  3rd Qu.:84.38   3rd Qu.: 98.84   3rd Qu.:100.00   3rd Qu.:75.00
##  Max.   :93.00   Max.   :100.00   Max.   :100.00   Max.   :90.00
##                                                    NA's   :1
##      exam1           exam2
##  Min.   :53.00   Min.   : 8.667
##  1st Qu.:82.38   1st Qu.:66.667
##  Median :87.00   Median :74.000
##  Mean   :85.06   Mean   :72.918
##  3rd Qu.:90.50   3rd Qu.:83.667
##  Max.   :98.50   Max.   :98.000
##                  NA's   :1
```
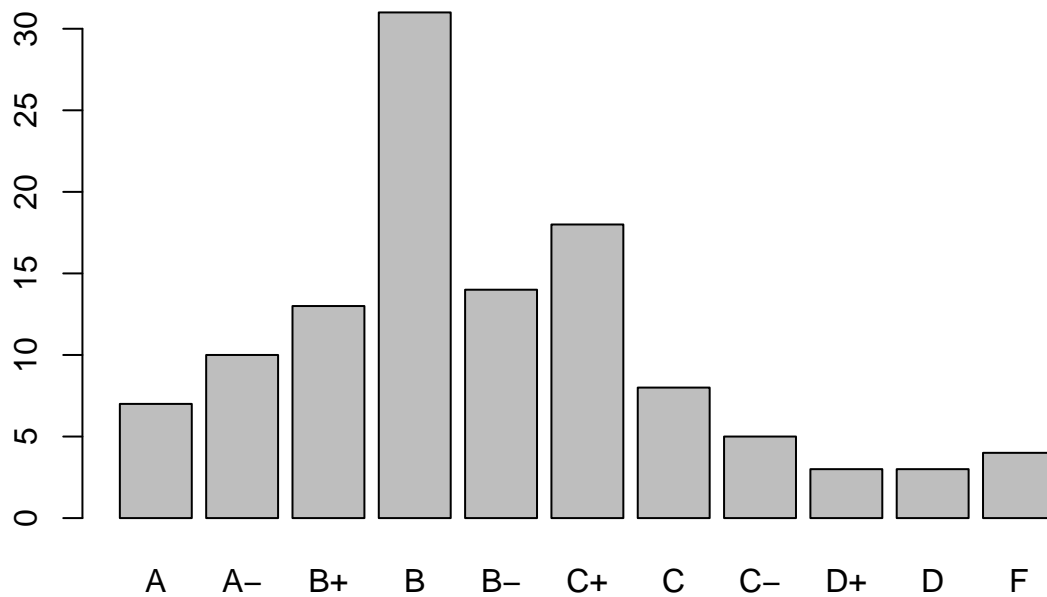
- boxplots of all grades

- histogram of total points

Histogram of grades$totalPoints

- **If we shift totalPoints up by 3 points to account for the harsh grading on the project this brings the max grade up to 96%**
- totalPoints rounded to the next highest integer and converted to letter grades with the following scale:

totalPoints	letterGrade
A	94-100
A-	90-93
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	65-69
D	60-64
F	Below 60

- table of letter grades

```
## 
##  A A- B+  B B- C+  C C- D+  D  F
##  7 10 13 31 14 18  8  5  3  3  4
```

- bar plot of letter grades

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- print letterGrades by totalPoints

```
##    totalPoints letterGrade
## 1           96           A
## 2           96           A
## 3           95           A
## 4           95           A
## 5           95           A
## 6           94           A
## 7           93           A
## 8           92          A-
## 9           92          A-
## 10          91          A-
## 11          91          A-
## 12          90          A-
## 13          90          A-
## 14          90          A-
## 15          90          A-
## 16          90          A-
## 17          90          A-
## 18          89          B+
## 19          89          B+
## 20          89          B+
## 21          89          B+
## 22          89          B+
```

```
## 23          89          B+
## 24          88          B+
## 25          88          B+
## 26          88          B+
## 27          88          B+
## 28          88          B+
## 29          88          B+
## 30          87          B+
## 31          86          B
## 32          86          B
## 33          86          B
## 34          86          B
## 35          86          B
## 36          86          B
## 37          86          B
## 38          86          B
## 39          86          B
## 40          85          B
## 41          85          B
## 42          85          B
## 43          85          B
## 44          85          B
## 45          85          B
## 46          85          B
## 47          85          B
## 48          84          B
## 49          84          B
## 50          84          B
## 51          84          B
## 52          84          B
## 53          84          B
## 54          84          B
## 55          83          B
## 56          83          B
## 57          83          B
## 58          83          B
## 59          83          B
## 60          83          B
## 61          83          B
## 62          82          B-
## 63          82          B-
## 64          82          B-
## 65          81          B-
## 66          81          B-
## 67          81          B-
## 68          81          B-
## 69          80          B-
## 70          80          B-
## 71          80          B-
## 72          80          B-
## 73          80          B-
## 74          80          B-
## 75          80          B-
## 76          79          C+
```

```
## 77     79     C+
## 78     79     C+
## 79     79     C+
## 80     79     C+
## 81     79     C+
## 82     79     C+
## 83     78     C+
## 84     78     C+
## 85     78     C+
## 86     78     C+
## 87     78     C+
## 88     78     C+
## 89     77     C+
## 90     77     C+
## 91     77     C+
## 92     77     C+
## 93     77     C+
## 94     76      C
## 95     75      C
## 96     75      C
## 97     75      C
## 98     74      C
## 99     74      C
## 100    73      C
## 101    73      C
## 102    72     C-
## 103    72     C-
## 104    71     C-
## 105    70     C-
## 106    70     C-
## 107    69     D+
## 108    69     D+
## 109    67     D+
## 110    64      D
## 111    63      D
## 112    62      D
## 113    59      F
## 114    57      F
## 115    43      F
## 116    26      F
```