class06

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```
grade <- function(file.name) {
  file <- read.csv(file.name) # read in the gradebook csv file
  for (i in 1:nrow(file)) { # loop through the students
    student <- file[i,2:6] # isolate grades in a vector w/o col X
    student[is.na(student)] <- 0 # make NA values into a 0
    student <- as.matrix(student) # made into a matrix to avoid order error
    avg.grade <- mean(student[order(student)][2:(length(student))])
    # avg. grade puts the grades in order then removes the first (lowest) grade
    # and averages the rest, storing this value in avg.grade
    student <- data.frame(student) # converts bac into a dataframe
    file[i,"avg.grade"] <- avg.grade # puts the average grade in a new column
  }
  print(file)
}

grade("C:/Users/echamieccase/Desktop/student_homework.csv")
```

```
           X hw1 hw2 hw3 hw4 hw5 avg.grade
1   student-1 100  73 100  88  79     91.75
2   student-2  85  64  78  89  78     82.50
3   student-3  83  69  77 100  77     84.25
4   student-4  88  NA  73 100  76     84.25
5   student-5  88 100  75  86  79     88.25
6   student-6  89  78 100  89  77     89.00
7   student-7  89 100  74  87 100     94.00
8   student-8  89 100  76  86 100     93.75
9   student-9  86 100  77  88  77     87.75
10 student-10  89  72  79  NA  76     79.00
11 student-11  82  66  78  84 100     86.00
12 student-12 100  70  75  92 100     91.75
13 student-13  89 100  76 100  80     92.25
```

```
14 student-14  85 100  77  89  76     87.75
15 student-15  85  65  76  89  NA     78.75
16 student-16  92 100  74  89  77     89.50
17 student-17  88  63 100  86  78     88.00
18 student-18  91  NA 100  87 100     94.50
19 student-19  91  68  75  86  79     82.75
20 student-20  91  68  76  88  76     82.75
```

```
gradebook <- grade("C:/Users/echamieccase/Desktop/student_homework.csv")
```

```
           X hw1 hw2 hw3 hw4 hw5 avg.grade
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19 student-19  91  68  75  86  79     82.75
20 student-20  91  68  76  88  76     82.75
```

```
gradebook[is.na(gradebook)] <- 0

# question 2 (student with highest grade):
print(paste('student',which.max(gradebook[["avg.grade"]])))
```

```
[1] "student 18"
```

```r
# question 3 (homework with lowest score):
print(paste('homework',which.min(list(mean(gradebook$hw1),mean(gradebook$hw2),mean(gradebo
```

```
[1] "homework 2"
```