PS 211: Grade Calculator

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You can use this R Markdown document to calculate your grade for the PS 211 course. Follow the instructions below to input your scores for each course assignment.

This first section contains the function to calculate your grade. You don't need to change anything here. Just run it once. Then you can enter different scores below and see what your grade would be.

```r
calculate_grade <- function(homework1, homework2, homework3, homework4, data_writeup, discussion, exam1

  # weight course components
  weights <- list(
    homework = 0.10,
    data_writeup = 0.10,
    discussion = 0.10,
    best_exam = .25,
    other_exams = .45
  )

  # Compute homework average (drop the lowest score)
  homework_scores <- c(homework1, homework2, homework3, homework4)
  homework_average <- mean(sort(homework_scores, decreasing = TRUE)[1:3])

  # Determine best vs. other exams
  exam_scores <- c(exam1, exam2, exam3, exam4)
  other_exam_average <- mean(sort(exam_scores)[1:3])
  best_exam <- exam_scores[4]

  # Final grade calculation
  final_grade <- (homework_average * weights$homework) +
                 (data_writeup * weights$data_writeup) +
                 (discussion * weights$discussion) +
                 (other_exam_average * weights$other_exams) +
                 (best_exam * weights$best_exam)

  #convert to letter grade
  if (final_grade >= 93.95) {
    letter_grade <- "A"
  } else if (final_grade >= 89.95) {
    letter_grade <- "A-"
```

```r
  } else if (final_grade >= 86.95) {
    letter_grade <- "B+"
  } else if (final_grade >= 82.95) {
    letter_grade <- "B"
  } else if (final_grade >= 79.95) {
    letter_grade <- "B-"
  } else if (final_grade >= 76.95) {
    letter_grade <- "C+"
  } else if (final_grade >= 72.95) {
    letter_grade <- "C"
  } else if (final_grade >= 69.95) {
    letter_grade <- "C-"
  } else if (final_grade >= 59.95) {
    letter_grade <- "D"
  } else {
    letter_grade <- "F"
  }

  grades <- c(round(final_grade, 2), letter_grade)
  return(grades)
}
```

Change the numbers below to your scores (or hypothetical scores)

```r
homework1 <- 98
homework2 <- 75
homework3 <- 84
homework4 <- 0
data_writeup <- 85
discussion <- 100
exam1 <- 80
exam2 <- 85
exam3 <- 90
exam4 <- 92
```

Finally, you can run the function to calculate your grade

```r
library(cli)
grades <- calculate_grade(homework1, homework2, homework3, homework4, data_writeup, discussion, exam1, 

cli_alert_info("Based on these scores, your course grade would be: {grades[1]}, which is a(n) {grades[2]

## i Based on these scores, your course grade would be: 88.32, which is a(n) B+.
```