

Statistics Homework 3

Mr. Grant

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Due Date: Thursday, July 13th

Turn in this homework by emailing me (SLGstats@uw.edu) an R file with these four functions in it. The file should be named [firstname]_[lastname]_hw3.R.

We didn't get to this in class today, but functions can either “print” or “return.” You write the function almost the exact same way. So an **R** function that “takes in” something and **prints** something plus two would be:

```
add2 <- function(something) {  
  print(something + 2)  
}
```

while an **R** function that takes in something and **returns** something plus two would be

```
add2 <- function(something) {  
  return(something + 2)  
}
```

1. Write an R function for the mathematical function $f(x) = 4x^2 + 3x + \sqrt{x} + \sin(x) + 7$.
2. Write a function that takes in a vector and returns the first 5 elements of that vector, or the phrase “Vector too short!” if the vector has length less than 5.
3. Write a function that takes in a whole number n and returns the sum of all the positive odd numbers less than or equal to n .
4. Write a function that takes in three numbers and returns the “middle” number. That is, the function should take in inputs a , b , and c , and return a if $b \leq a \leq c$ or $c \leq a \leq b$, etc.