STAT 33B Lecture Workbook Wk 10

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This workbook is due **Mar 31, 2021** by 11:59pm PT.

- Knit and submit the generated PDF file on Gradescope.

Write a function that determines whether each element in a numeric vector is even or odd.

If all of the elements are even, `cat` the message `"All even"`.

If they are all odd then `cat` the message `"All odd"`.

Otherwise, `cat` the message, `"Mixed values, e.g. x is even and y is odd"` where `x` is an even value and `y` is an odd value of the input vector.

```
checkDivisibility = function(x) {
  rems = x %% 2
  z = sum(rems)

  if (z == 0) {
    cat("All even.\n")
  }
  if (z == length(x)) {
    cat("All odds.\n")
  }
  if (z > 0 & z < length(x)) {
    cat("Mixed values, e.g.,", x[which(rems == 0)[1]], "is even and",
        x[which(rems == 1)[1]], "is odd.\n")
  }
}
```

Test your function with the following inputs

```
evens = seq(2, 10, by = 2)
odds = seq(1, 7, by = 2)
mixed = c(10, 12, 14, 17, 20)
```

```
checkDivisibility(odds)
```

```
## All odds.
```

```
checkDivisibility(evens)
```

```
## All even.
```

```
checkDivisibility(mixed)
```

```
## Mixed values, e.g., 10 is even and 17 is odd.
```