

Practice Assignment 04

Create a GitHub repository called "st2195_assignment_4".

1. Commit/push the code below as a file called "foo.R".
2. Find and fix all the bugs in the code [1 point is awarded for every fixed bug]. Instructions are given in the form of comments in the code.
3. Update "foo.R" by committing and pushing the revisions.

```
# Radius
r <- 2

# Function to compute the volume of a sphere with radius r
volume <- function(r, rho) {
  3/4*pi*r^2
}

# Function to compute the volumes of the spheres with radius r, r^2 and r^3
volume_vector <- function(r) {
  r <- 22
  for (r in 2:4){
    volume(r)
  }
}

# Run volume_vector(r) and print the volumes of the spheres with radius r, r^2 and r^3
volume_vector(r)
```

Additional Notes:

- Original code runs without errors, but nothing is printed on screen. However, there are a few bugs present. What was the process you took to debug the program?

Hints:

- You can place breakpoints or add `browser()` statement in code at locations you wish to stop and examine further. Maybe put one in each function – `volume` and `volume_vector`?
- `volume` function:
 - Check task
 - Check arguments
 - Check variables
 - Check what is returned
- `volume_vector` function:
 - Check task
 - Check variables/arguments
 - Check what is returned – may need a data structure to store multiple values
- (Optional) Any redundant variables or statements?