COMP828: Week 1 Quiz

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2024-03-07

1. Perform the following calculations in R/RStudio using this R markdown template and write your R code in the code chunk provided:

- $\frac{2+1}{2^{3\times1}} + 5$
- $x = \sqrt{10}$ and $y = 1 - \frac{1}{1+x}$. Find the value for y

```
x <- (2 + 1) / (2^(3*1)) + 5
x
```

```
## [1] 5.375
```

```
x <- sqrt(10)
y <- 1 - (1 / (1 + x))
y
```

```
## [1] 0.7597469
```

2. Write the R code (in the code chunk provided) to find the descriptiopn of the "plot" function.

```
# Write your R code here
?plot
```

```
## Help on topic 'plot' was found in the following packages:
##
##   Package               Library
##   graphics              /Library/Frameworks/R.framework/Versions/4.3
-x86_64/Resources/library
##   base                  /Library/Frameworks/R.framework/Resources/li
brary
##
##
## Using the first match ...
```

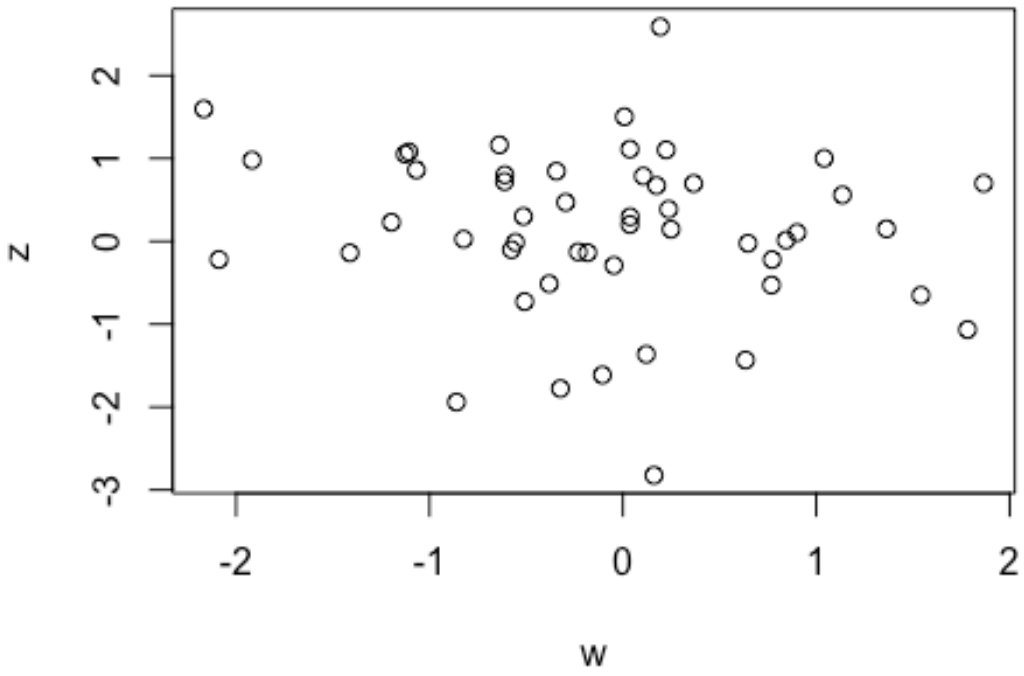
3. Generate the variables w and z using the R code below. Then, make the plot of w against z (i.e., on the xy plane). Write your R code in the code chunk provided.

```
w <- rnorm(50)

z <- rnorm(w)
```

```
# Write your R code here
w <- rnorm(50)
```

```r
z <- rnorm(w)
plot(w,z)
```



4. Generate a sequence of even numbers from 0 to 20. Then, make it as a 5x2 matrix.

```r
# Write your R code here
s <- seq(2, 20, by=2)

m <- matrix(s, nrow=5, ncol=2, byrow=TRUE)
m
```

```
##      [,1] [,2]
## [1,]    2    4
## [2,]    6    8
## [3,]   10   12
## [4,]   14   16
## [5,]   18   20
```

5. Find the dimension of the matrix in 4.

```r
# Write your R code here
s <- seq(2, 20, by=2)

m <- matrix(s, nrow=5, ncol=2, byrow=TRUE)
```

```r
md <- dim(m)
md
```

```
## [1] 5 2
```