# Question 1.

1. Create a vector with all the integers divisible by 3 from 36 to 333.

\* Assign this vector to a variable.

\* Add up the elements of this vector.

```{r}

my\_vec <- seq(36, 333, by = 3)

my\_var <- my\_vec

sum <- sum(my\_var)

```

# Question 2.

2. Create a vector of numerics of length 100 that starts at 36 and ends at 333. The difference between any two consecutive elements should be the same.

\* Assign this vector to a variable.

\* Add up the elements of this vector.

```{r}

my\_vec2 <- seq(36, 333, length.out = 100)

my\_var2 <- my\_vec2

sum <- sum(my\_var2)

```

# Question 3.

3. Create two random (coming from normal distribution) 3 by 3 matrices.

\* Assign them to variables A and B.

\* Compare them element-wise and have a new matrix that each element of it is 1 if an element in A is bigger than equal to its corresponding element in B or 0 otherwise!

```{r}

set.seed(1234)

A <- matrix(rnorm(9), nrow = 3, ncol = 3)

B <- matrix(rnorm(9), nrow = 3, ncol = 3)

New\_matrix <- matrix(as.integer(A >= B), nrow = 3, ncol = 3)

```

# Question 4.

4. Extract the 39th to 69th elements from the vector you created in question 1.

```{r}

new\_vec\_questionfour <- my\_vec[39:69]

```

# Qestion 5.

5. Combine (concatenate) the vectors from questions 1 and 2 and assign this combined vector to a new variable. Use a function to determine the length of this vector.

```{r}

new\_vec\_questionfive <- c(my\_vec, my\_vec2)

new\_var3 <- new\_vec\_questionfive

length(new\_vec\_questionfive) #A function to determine the length of this vector

```

# Question 6.

6. What is the sum of the log (base 10) of every element in the vector in question 5?

```{r}

log\_sum <- sum(log10(new\_vec\_questionfive))

print(log\_sum)

```

# Question 7.

7. Create two vectors of length 3, one with numbers and one with characters.

\* Create a dataframe with the vectors and assign to a variable.

\* Sum the numbers in the first column.

```{r}

with\_number <- c(20,19,22)

with\_characters <- c("Peter","Alex","Frank")

df <- data.frame(Age = with\_number, Name = with\_characters)

sum\_first\_column <- sum(df$Age)

```

# Question 8.

8. Using the information provided to:

\* Find the mean of annual incomes of employees older than 27?

\* Find the age median of those whose account balance is more than 1500.

\* List the names of these people!

```{r}

```