

## Homework 7

Code:

```
1 # HW 7 Mean as a balance point
2 # Inthat Sappipat 65011304
3
4 options(scipen = 999) # set the display format for large numbers
5
6 my.mean <- function(){ # create a function named my.mean to calculate the mean of dataset
7   # using the sum of differences always be zero at the mean point
8
9   data <- c(4.9, 6.8, 1.3, 7.4, 2.5) # create a variable named data to store element in
10   # the dataset
11
12   n <- length(data) # create a variable named n to count the number of the element in dataset
13
14   mean_arith <- mean(data) # create a variable name mean_arith to calculate the arithmetic
15   # mean of the data set
16
17   sum_diff <- 0 # create a variable named sum_diff to store the sum of the difference mean
18
19   for (i in 1:n) { # loop from 1 to the number of element in dataset
20
21     diff <- data[i] - mean_arith # create a variable named diff to store the difference
22     # between the i element of the dataset and the arithmetic
23     # mean
24
25     sum_diff <- sum_diff + diff # create a variable named sum_diff to accumulate the
26     # differences
27   }
28
29   mymean <- mean_arith + sum_diff / n # calculate the adjusted mean
30
31   builtinmean <- mean(data) #calculate the mean of dataset using built-in function
32
33   cat("My.mean = ", round(mymean, 2), "\n",
34       "Built-in mean = ", round(builtinmean, 2)) # show the output of the 2 means
35
36 }
37
38 my.mean() # run the function
```

Result:

```
> my.mean() # run the function
My.mean = 4.58
Built-in mean = 4.58
```

## Conclusion:

From the experiment, `my.mean` is a function that demonstrates how to find the mean in the dataset using the sum of the difference always being zero at the mean point. The result of the function `my.mean` is the same as the result of the `mean()` built-in function which is 4.58. This confirms that the function `my.mean` that I have modified from the professor is consistent with the `mean()` built-in function.