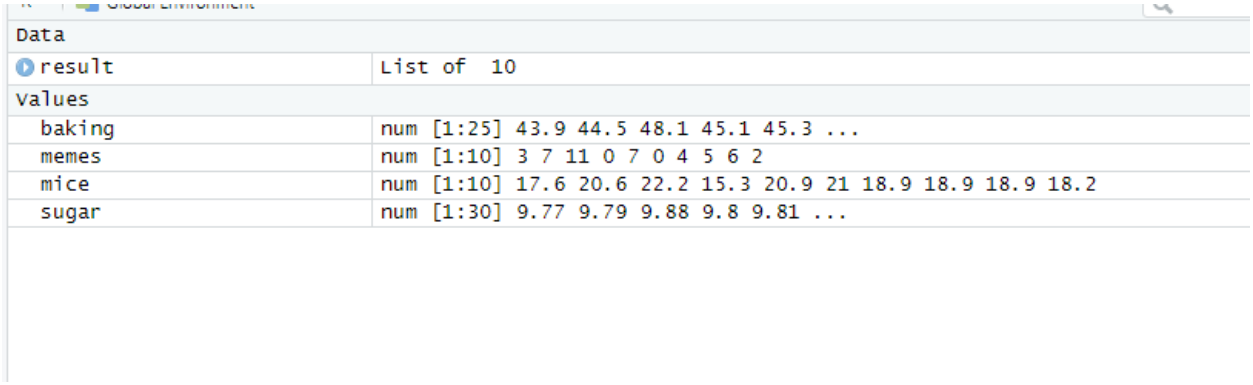
**IT24102776-Ranasingha A.M.B.R**

**Lab Sheet -09**

```
> setwd("C:\\Users\\Manith Banula\\Desktop\\Lab9")
Warning message:
R graphics engine version 16 is not supported by this version of
on of RStudio is installed.
> getwd()
[1] "C:/Users/Manith Banula/Desktop/Lab9"
> memes <- c(3, 7, 11, 0, 7, 0, 4, 5, 6, 2)
> t.test(memes, mu = 3, alternative = "two.sided")

        One Sample t-test

data:  memes
t = 1.3789, df = 9, p-value = 0.2012
alternative hypothesis: true mean is not equal to 3
95 percent confidence interval:
 2.0392 6.9608
sample estimates:
mean of x
      4.5

> mice <- c(17.6, 20.6, 22.2, 15.3, 20.9, 21.0, 18.9, 18.9, 18.9, 18.2)
> t.test(mice, mu = 25, alternative = "less")
```

```
> result <- t.test(mice, mu = 25, alternative = "less")
> result$statistic
        t
-9.078319
> result$p.value
[1] 3.976692e-06
> result$conf.int
[1]     -Inf 20.41105
attr(,"conf.level")
[1] 0.95
> mean(mice)
[1] 19.25
> set.seed(123) # reproducible
> sugar <- rnorm(30, mean = 9.8, sd = 0.05)
> t.test(sugar, mu = 10, alternative = "greater")

        One Sample t-test

data:  sugar
t = -22.596, df = 29, p-value = 1
alternative hypothesis: true mean is greater than 10
95 percent confidence interval:
 9.782428      Inf
sample estimates:
mean of x
 9.797645
```

```
> set.seed(123)
> baking <- rnorm(25, mean = 45, sd = 2)
> t.test(baking, mu = 46, alternative = "less")

        One Sample t-test

data:  baking
t = -2.8167, df = 24, p-value = 0.004776
alternative hypothesis: true mean is less than 46
95 percent confidence interval:
     -Inf 45.58124
sample estimates:
mean of x
 44.93334

> |
```



| Data | |
|---|---|
| result | List of 10 |
| Values | |
| baking | num [1:25] 43.9 44.5 48.1 45.1 45.3 ... |
| memes | num [1:10] 3 7 11 0 7 0 4 5 6 2 |
| mice | num [1:10] 17.6 20.6 22.2 15.3 20.9 21 18.9 18.9 18.9 18.2 |
| sugar | num [1:30] 9.77 9.79 9.88 9.8 9.81 ... |