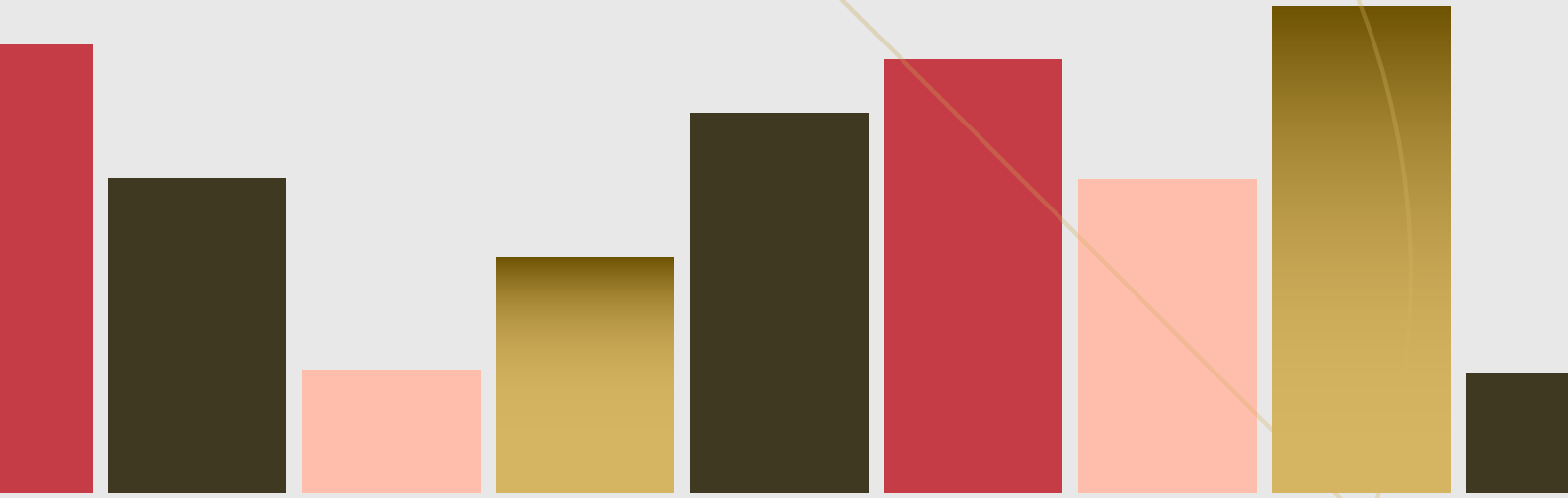

통계학과

2023 - 23402

김보경

```
> end_time_1 <- Sys.time()
> elapsed_time_1 <- as.numeric(difftime(time1 = end_time_1,
+                                       time2 = start_time_1,
+                                       units = "secs"))
> cat("elapsed time1 : ",sprintf("%.3f",elapsed_time_1),"sec",sep="")
elapsed time1 : 13.365sec
> start_time_2 <- Sys.time()
> sapply(list(a= rnorm(100000000),b= rnorm(100000000)),mean)
           a            b
-1.180791e-05  2.005180e-04
> end_time_2 <- Sys.time()
> elapsed_time_2 <- as.numeric(difftime(time1 = end_time_2,
+                                       time2 = start_time_2,
+                                       units = "secs"))
> cat("elapsed time2 : ",sprintf("%.3f",elapsed_time_2),"sec",sep="")
elapsed time2 : 13.836sec
> start_time_3 <- Sys.time()
> vec <- NULL
> for (i in 1:2){vec[i] <- mean(rnorm(100000000))}
> print(vec)
[1]  8.599546e-05 -5.626223e-05
> end_time_3 <- Sys.time()
> elapsed_time_3 <- as.numeric(difftime(time1 = end_time_3,
+                                        time2 = start_time_3,
+                                        units = "secs"))
> cat("elapsed time3 : ",sprintf("%.3f",elapsed_time_3),"sec",sep="")
elapsed time3 : 14.404sec
```

elapsed time 1, 2, 3은 각각은 lapply, sapply, for loop을 각각 normal 100000번 추출한 수는 평균을 2번씩 함수이다.

결과값으로 elapsed time 1 < 2 < 3 인것을 확인할 수 있다.