# Typing Speed vs. Keyboard Type

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# 1 Abstract

In fields such as data analytics or statistics, where typing speed is directly correlated to work productivity, employers and employees continuously try to find the best methods to improve typing speed, such as finding the right keyboard for them. This research project aims to determine what type of keyboard produces the best typing speed by creating an experiment comparing keyboards to typing speed. This experiment uses a Latin-Squares Block Design to better determine the relationship between typing speed, the operator, and the order at which the operator uses the keyboard and collects data. The results show that **insert results here**. In conclusion, **insert conclusion here**.

# 2 Introduction

The idea for this experiment was formulated from a need to find the best ways for Computational Modeling and Data Analytics (CMDA) students like us to be as productive as possible when working on their projects and assignments. In a career where typing speed directly leads to better performance at work, we wanted to find the best relationship between typing speed and the type of keyboard to use.

To best answer this question, we used three different types of keyboards to measure typing speed: dome-switch, scissor-switch and mechanical. Dome-switch keyboards use a rubber dome to register keyboard actions, are inexpensive and can commonly be found in offices. Scissor-switch keyboards are attached to the board itself and activate using a scissor-like mechanism to press into a rubber dome to register keyboard actions, and are commonly found on laptops. Mechanical keyboards are higher-end keyboards that are designed to register keyboard actions with as little movement as possible and without the use of a rubber dome. They're commonly found in both office and gaming setups.

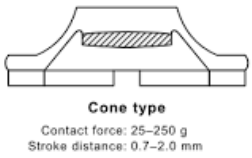


Figure 1: Dome switch

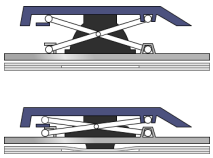

Figure 2: Scissor switch

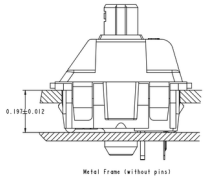

Figure 3: Mechanical switch

# 3 Methods

To best compare the different keyboards, we set up a Latin-Squares Block Design with three replications for the most accurate results. Our treatment factor is the type of keyboard while our blocking factors are the users and the order at which keyboards we type with for optimal accuracy. Our response factor is the words per minute (WPM) the operator types at.

## 3.1 Materials

Listed below are the keyboards we used for the experiment:

- Dome-switch: Logitech K270
- Scissor-switch: Surface Laptop 4 keyboard
- Mechanical: NovelKeys NK87 with Gateron Oil King linear switches

We used monkeytype.com to record our typing speed. For the experiment, we set the settings on **time** and let the typing test run for **60 seconds**. When we gathered our data, we used the help of a third friend to record data (aside from ourselves).

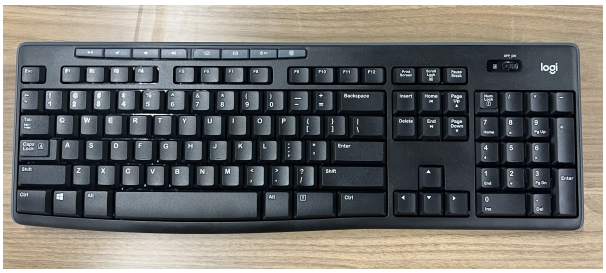

Figure 4: Logitech K270

Figure 5: NovelKeys NK87

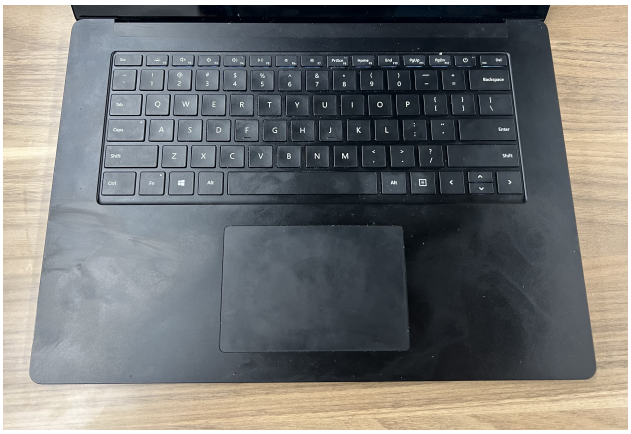

Figure 6: Surface Laptop 4

### 3.2 Procedure

After gathering our resources and setting the experiment up, we had our first operator complete the typing test starting with the dome-switch keyboard, then the scissor-switch keyboard and finally the mechanical keyboard. After recording the WPM for each keyboard, we then switched operators and conducted the same typing test under a different order: mechanical, dome-switch and finally scissor-switch. After recording the WPM again, we then switched operators one last time and swapped the order to scissor-switch, mechanical and finally dome-switch. Finally, we collected the WPM for each keyboard.

This process was repeated three times.

## 4 Observations

## 5 Results

## 6 Conclusion