**Problem Statement :**

# Inferential statistics applied to a Stroop Effect measurement

This analysis aims to compute descriptive statistics and to perform a statistical test on a dataset based on a psychological phenomenon: the Stroop Effect. This report is structured into four sections: (1) *Introduction*, where the investigation problem is set; (2) *Descriptive Statistics*, where the data is parameterized statistically; (3) *Hypotheses Test*, in which a statistical test is applied to data and its results are reported; and (4) *Conclusion*, where an in-depth discussion on Stroop Effect is made.

### The Stroop Effect[¶](https://www.kaggle.com/tsilveira/inferential-statistics-and-hypothesis-testing#1.1.-The-Stroop-Effect)

the *Stroop Effect* is defined as follow:

the Stroop effect is a demonstration of interference in the reaction time of a task. When the name of a color (e.g., "blue", "green", or "red") is printed in a color that is not denoted by the name (e.g., the word "red" printed in blue ink instead of red ink), naming the color of the word takes longer and is more prone to errors than when the color of the ink matches the name of the color. The effect is named after John Ridley Stroop, who first published the effect in English in 1935.

These situations are defined as *congruent*, when the name of color is equivalent to the name, or *incongruent*, when the name denotes to another color, as shown in the following example sets.

**Congruent set of words:**

**Green Red Blue Orange**

**Incongruent set of words:**

**Green Red Blue Orange**

**Understanding Of dataset**

The dataset used in this analysis is available and refers to the time of reading the ink color either for a list of congruent words and for a list of incongruent words. Each line of the dataset corresponds to a different person, in a total of 24 people, as confirmed by the dataset length.

In order to define the hypotheses that will lead this analysis, it is first needed to know which information is available in the dataset (attributes).