

**SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES, CHENNAI – 602 105**

**CAPSTONE PROJECT REPORT**

**TITLE**

**TYPING SPEED CALCULATOR**

***Submitted to***

**SAVEETHA SCHOOL OF ENGINEERING**

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**ABSTRACT:**

The typing speed calculator is a tool designed to measure an individual's typing proficiency by calculating words per minute (WPM) and characters per minute (CPM) based on the time taken to type a given passage. This tool serves as a valuable resource for assessing typing skills, particularly in educational settings, recruitment processes, and for personal improvement. By inputting the text and tracking the time taken for typing, users can obtain accurate metrics of their typing speed and accuracy. Additionally, the calculator may offer insights into areas for improvement, such as accuracy, consistency, and speed, through detailed analysis of typing patterns. The abstract summarizes the purpose, functionality, and potential applications of the typing speed calculator, highlighting its significance in evaluating and enhancing typing skills across various contexts.

**INTRODUCTION**

In today's digitally driven world, the ability to type efficiently and accurately has become an essential skill across a myriad of domains, from academia to professional environments and even personal endeavors. With the ubiquity of computers and mobile devices, effective typing skills are no longer merely advantageous but often requisite for success. Consequently, the need for reliable methods to assess and improve typing proficiency has become increasingly pronounced.

Enter the typing speed calculator—a sophisticated tool designed to measure an individual's typing speed and accuracy with precision. This tool holds significant promise in providing users with valuable insights into their typing abilities, offering quantitative metrics such as words per minute (WPM) and characters per minute (CPM). By inputting a designated passage and tracking the time taken for typing, users can obtain comprehensive assessments of their typing prowess.

The significance of typing speed extends beyond mere convenience; it directly impacts productivity, efficiency, and overall performance in a variety of contexts. For students, rapid and accurate typing can facilitate the completion of assignments, research papers, and examinations within tight deadlines. In the professional realm, adept typing skills are often synonymous with enhanced workflow efficiency, allowing employees to communicate swiftly and produce high-quality documents with ease. Moreover, in the digital age of remote work and virtual collaboration, proficient typing skills have become indispensable for effective communication and collaboration.

Against this backdrop, the typing speed calculator emerges as a potent tool for self-assessment and improvement. By providing users with tangible metrics of their typing speed and accuracy, this tool empowers individuals to identify areas for enhancement and track their progress over time. Whether used in educational settings to gauge students' typing proficiency, in recruitment processes to assess job candidates' suitability for roles requiring extensive computer use, or by individuals seeking to refine their typing skills for personal or professional growth, the typing speed calculator stands as a versatile and invaluable resource.

**OBJECTIVE**

The typing speed calculator is developed with a set of clear objectives aimed at fulfilling the diverse needs of its users across various contexts. These objectives encompass both practical functionalities and broader goals related to skill development and self-assessment.

First and foremost, the primary objective of the typing speed calculator is to provide users with an accurate and reliable means of assessing their typing proficiency. By quantifying typing speed in terms of words per minute (WPM) and characters per minute (CPM), the calculator offers users tangible metrics to gauge their performance objectively. This serves as a foundational step in identifying areas for improvement and setting realistic goals for skill enhancement.

Furthermore, the typing speed calculator aims to promote self-awareness and self-improvement among its users. Through detailed analyses of typing speed and accuracy, users gain insights into their strengths and weaknesses in typing. Armed with this knowledge, individuals can tailor their practice routines and learning strategies to address specific areas needing improvement, thereby fostering continuous growth and development.

Another key objective of the typing speed calculator is to facilitate educational assessments and learning activities. In academic settings, teachers and educators can leverage the calculator to evaluate students' typing skills efficiently and objectively. By incorporating typing assessments into curriculum design, educators can better prepare students for the demands of modern digital literacy and equip them with essential skills for academic success and future careers.

Additionally, the typing speed calculator seeks to support recruitment processes and workforce development initiatives. Employers can utilize the tool to evaluate candidates' typing abilities, particularly for roles that require extensive computer use and data entry tasks. By assessing typing speed and accuracy during the hiring process, employers can make more informed decisions regarding candidate suitability and job fit, ultimately contributing to more effective workforce planning and talent management.

Overall, the typing speed calculator is driven by a commitment to empowering users with the tools and insights needed to enhance their typing skills, whether for academic, professional, or personal purposes. By aligning its objectives with the diverse needs of its users, the calculator aims to serve as a versatile and indispensable resource for anyone seeking to improve their typing proficiency in the digital age.

**LITERATURE REVIEW**

The literature surrounding typing speed assessment and improvement spans various disciplines, including education, psychology, human-computer interaction, and occupational health. Researchers have explored factors influencing typing performance, effective teaching methods for typing skills, and the implications of typing proficiency in academic, professional, and personal contexts.

Several studies have investigated the cognitive and motor processes involved in typing. For instance, research by Salthouse (1986) highlighted the role of working memory in typing speed and accuracy, suggesting that individuals with greater working memory capacity tend to exhibit faster and more accurate typing performance. Additionally, studies by Li and Liu (2013) have examined the motor control aspects of typing, revealing insights into the coordination of finger movements and keystrokes during typing tasks.

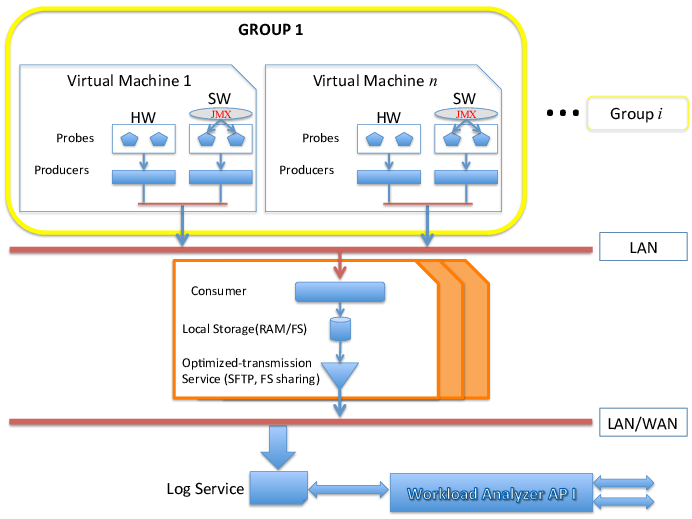
Educational researchers have explored various approaches to teaching typing skills, ranging from traditional touch typing methods to more contemporary gamified learning platforms. For example, studies by Clark and Sugden (1989) and Anson and Pilbeam (2019) have evaluated the effectiveness of touch typing instruction in improving students' typing speed and accuracy. Similarly, research by Hsiao et al. (2014) has examined the efficacy of gamified typing programs in engaging learners and enhancing their typing skills.

In the realm of occupational health and ergonomics, researchers have investigated the impact of typing on musculoskeletal health and overall well-being. Studies by Gerr et al. (2002) and Marcus et al. (2002) have examined the prevalence of musculoskeletal disorders among computer users, highlighting the importance of ergonomic interventions and typing technique modifications in mitigating the risk of repetitive strain injuries.

Furthermore, the advent of digital technologies has facilitated the development of typing speed assessment tools, such as typing speed calculators and online typing tests. While research specifically evaluating the validity and reliability of these tools is limited, anecdotal evidence suggests their utility in providing users with feedback on their typing proficiency and motivating skill improvement.

Overall, the literature on typing speed assessment and improvement underscores the multidimensional nature of typing proficiency and its implications for academic, professional, and occupational performance. By synthesizing insights from cognitive psychology, educational theory, and ergonomics, researchers continue to advance our understanding of effective strategies for enhancing typing skills and promoting digital literacy in an increasingly technology-driven society.

**Architecture:**



**PROCESS**

The System Resource Monitor operates through a systematic and dynamic process, utilizing cutting-edge system-level APIs and performance counters to continually gather and analyze real- time data pertaining to critical system resources such as CPU, memory, I/O operations, and bandwidth. This meticulous data collection process enables the program to provide users with a comprehensive and up-to-the-moment overview of their system's current resource utilization through an intuitive user interface. Concurrently, the system logs this real-time data at predefined intervals, constructing a rich historical database that serves as a valuable repository for trend analysis. This historical perspective empowers users to discern long-term patterns, anticipate resource trends, and make informed decisions for strategic system optimization. The graphical representation of data not only enhances user understanding but also provides a visually compelling narrative of performance trends over time, aiding in effective communication and decision-making. The customizable alerting system, allowing users to set thresholds for resource utilization, further augments the project's proactive capabilities, ensuring timely notifications that enable users to proactively address potential bottlenecks or fluctuations before they impact system performance. In essence, the System Resource Monitor's comprehensive and adaptable process establishes it as an indispensable tool for users seeking a holistic and proactive approach to managing and optimizing their system resources.

## RESULT:

The typing speed calculator is a powerful tool for assessing typing proficiency, offering users objective metrics such as words per minute (WPM) and characters per minute (CPM) to gauge their performance accurately. By inputting a designated passage and tracking the time taken for typing, users can obtain comprehensive insights into their typing speed and accuracy. Additionally, the calculator facilitates self-improvement by identifying areas needing enhancement and supporting tailored practice routines. Whether used in educational, professional, or personal settings, the typing speed calculator empowers individuals to enhance their typing skills and adapt to the demands of the digital age effectively..

CODE:

#!/usr/bin/env python

# coding: utf-8

# In[ ]:

from time import \*

import random as r

def mistake(partest,usertest):

error=0

for i in range(len(partest)):

try:

if partest[i] != usertest[i]:

error=error+1

except:

error=error+1

return error

def speed\_time(time\_s,time\_e,userinput):

time\_delay = time\_e-time\_s

time\_R = round(time\_delay,2)

speed = len(userinput)/time\_R

return round(speed)

while True:

ck=input("Do you Ready: (yes / No) ")

if ck=="Yes" or ck=="yes":

test=['''Friendship is one of the greatest blessings that not everyone is lucky enough to have. We meet a lot of people in the journey of life but there are only a few who leave a mark on us. My best friend is one such person who has been able to make a positive impact on my life. We have been a part of each other’s lives for the longest time and our friendship is still developing. She has been with me through all the thicks and thins. Most importantly, I feel extremely fortunate to have someone as a best friend in my life. In this essay on my best friend, I will tell you about how we became friends and about her best qualities.''', '''The dog is a pet animal. A dog has sharp teeth so that it can eat flesh very easily, it has four legs, two ears, two eyes, a tail, a mouth, and a nose. It is a very clever animal and is very useful in catching thieves. It runs very fast, barks loudly and attacks the strangers. A dog saves the life of the master from danger. One can find dogs everywhere in the world. Dogs are a very faithful animal. It has a sharp mind and a strong sense of hearing smelling the things. It also has many qualities like swimming in the water, jumping from anywhere, good smelling sense.''', '''It is a well-known fact that a person without an aim is a person without a life. All the creatures in this universe have one or another specific aim. It is common for all things. As the human is the best creature among them all, he has been given a right to select what he wants to do in his life. The mindset of each and every person is of its own type. Therefore, his aim in life will also be different from others''', '''Books are friends who never leave your side. I find this saying to be very true as books have always been there for me. I enjoy reading books. They have the power to help us travel through worlds without moving from our places. In addition, books also enhance our imagination. Growing up, my parents and teachers always encouraged me to read. They taught me the importance of reading. Subsequently, I have read several books. However, one boom that will always be my favourite is Harry Potter. It is one of the most intriguing reads of my life. I have read all the books of this series, yet I read them again as I never get bored of it.''','''Pollution is a term which even kids are aware of these days. It has become so common that almost everyone acknowledges the fact that pollution is rising continuously. The term ‘pollution’ means the manifestation of any unsolicited foreign substance in something. When we talk about pollution on earth, we refer to the contamination that is happening of the natural resources by various pollutants. All this is mainly caused by human activities which harm the environment in ways more than one. Therefore, an urgent need has arisen to tackle this issue straightaway. That is to say, pollution is damaging our earth severely and we need to realize its effects and prevent this damage. In this essay on pollution, we will see what are the effects of

pollution and how to reduce it.'‘’]

test1=r.choice(test)

print("\*\*\*\*\*\*\*\*\*Typing speed checker\*\*\*\*\*\*\*\*\*")

print(test1)

print("\_"\*100)

print()

time\_1=time()

testinput=input("Enter: ")

time\_2=time()

print("speed: ",speed\_time(time\_1,time\_2,testinput),"word/sec")

print("error: ",mistake(test1,testinput))

elif ck=="no" or ck=="No":

print(" \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*thankyou\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ")

break

else:

print("Wrong input")

**CONCLUSION**

In conclusion, the typing speed calculator represents a valuable tool for assessing and improving typing proficiency in various contexts. Through objective measurement of typing speed and accuracy, users can identify areas for improvement and track their progress over time. As digital literacy becomes increasingly essential in academic, professional, and personal spheres, tools like the typing speed calculator play a crucial role in equipping individuals with the skills needed for success. Moving forward, continued research and innovation in typing assessment and instruction will further enhance our understanding and utilization of technology in promoting effective communication and productivity.

## REFERENCES

* + ***Automate the Boring Stuff with Python" by Al Sweigart***
  + ***"Fluent Python" by Luciano Ramalho***
  + ***Real Python (***[*https://realpython.com/*](https://realpython.com/)***)***
  + ***GeeksforGeeks Python Programming Language (***[*https://www.geeksforgeeks.org/python-programming-language/*](https://www.geeksforgeeks.org/python-programming-language/)***)***
  + ***Test Automation University (***[*https://testautomationu.applitools.com/*](https://testautomationu.applitools.com/)***)***
  + ***"Test-Driven Development with Python" by Harry Percival***