

Leveled Typing Test in C

Intro to Programming in C Final Project

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INTRODUCTION

Many learn to type from conventional typing programs with words from very conventional paragraphs and excerpts out of articles. At some point, it is easy to hit an improvement plateau based on being unable to practice active typing of unfamiliar strings of words, letters, and numbers. I created a typing test-based program that has different modes and levels to improve typing skills in different contexts, as well as building the muscle memory for processing what to type from the screen.

MOTIVATION

In programming, in writing, and in life, speed becomes important in our ability to produce work on pace to meet deadlines. I enjoy typing tests, but feel like it’s very easy to get stuck in a certain words-per-minute range without making any improvement. I figured I would make something that allows me to expand what I’m doing with typing by doing it in a more unconventional manner. I also think it would be interesting to create something that lets you try over and over to keep improving.

INFORMATION DISPLAYS

Choice menu:

```
Welcome to the Leveled Typing Test!
Pick a mode:
[n] Normal
[c] Consonants
[v] Vowels
[#] Numbers
Enter mode: n
Pick a level:
[1] Easy
[2] Medium
[3] Hard
Enter level: 2
Continuous mode?
[y] Yes
[n] No
Enter mode: y|
```

Normal mode picks a random passage from a random book in the ‘texts’ file to run the test with.

Consonants mode picks a random passage from a random book in the ‘texts’ files and removes the vowels of the passage to run the test with.

Vowel mode picks a random passage from a random book in the ‘texts’ files and removes the consonants of the passage to run the test with.

Numbers mode picks a random range of 20 characters from pi to run the test with.

The easy, medium, and hard levels determine the length of the passage in Normal, Consonants, and Vowel mode and in Numbers mode determines whether it’s space separated digits, non-space separated digits, or hexadecimal digits of pi.

Results display:

```
You typed the passage correctly in 34.20 seconds.
Words per minute: 49.12
Accuracy: 100%
```

SAMPLE OUTPUTS

Normal mode, level 3:

```
Please start typing the following passage:
y that a dreadful fear came upon me, and I was afraid to speak or mov
e. The time seemed interminable as we swept on our way, now in almost
complete darkness, for the rolling clouds obscured the moon. We kept
on ascending, with occasional periods of quick descent, but in the m
ain always ascending. Suddenly, I became conscious of the fact that t
he driver was in the act of pulling up the horses in the courtyard of
a vast ruined castle, from whose tall black windows came no ray of l
ight, and whose b

Type the passage and press enter to submit:
y that a dreadful fear came upon me, and I was afraid to speak or mov
e. The time seemed interminable as we swept on our way, now in almost
complete darkness, for the rolling clouds obscured the moon. We kept
on ascending, with occasional periods of quick descent, but in the m
ain always ascending. Suddenly, I became conscious of the fact that t
he driver was in the act of pulling up the horses in the courtyard of
a vast ruined castle, from whose tall black windows came no ray of l
ight, and whose b
You typed the passage correctly in 10.47 seconds.
Words per minute: 572.79
Accuracy: 100%
```

Vowels mode, level 2:

```
Please start typing the following passage:
e e o e a e ou oee i aaie e e a e I ou e a eiue. i oie
e o e e ae a. I ae eoe ee i, e I a o ieaie o

Type the passage and press enter to submit:
e e o e a e ou oee i aaie e e a e I ou e a eiue. i oie
e o e e ae a. I ae eoe ee i, e I a o ieaie o
You typed the passage correctly in 33.27 seconds.
Words per minute: 36.07
Accuracy: 100%
```

Consonants mode, level 2:

```
Okay, starting typing test . . .
Please start typing the following passage:
nd rsd n nmtn, whl th lnmnts f hs fc r rrdtd by th sl wthn. Strng nd h
rrwng mst b hs stry, frghtfl th strm whch mbrcd th glnt vssl n ts crs

Type the passage and press enter to submit:
nd rsd n nmtn, whl th lnmnts f hs fc r rrdtd by th sl wthn. Strng nd h
rrwng mst b hs stry, frghtfl th strm whch mbrcd th glnt vssl n ts crs
You typed the passage correctly in 34.20 seconds.
Words per minute: 49.12
Accuracy: 100%
Press enter to continue testing or type 'exit' to quit: |
```

Numbers mode, level 3:

```
Okay, starting typing test . . .
Please start typing the following passage:
de941f98ad4c4f8f43f2

Type the passage and press enter to submit:
de941f98ad4c4f8f43f2
You typed the passage correctly in 18.15 seconds.
Words per minute: 13.23
Accuracy: 100%
```

CODE REVIEW

start_test():

This triggers the test by reading the files and calling the read_random_chunk. This is mainly how the modes and levels are chosen.

read_random_chunk():

Finds a random excerpt for the length of preset sizes according to the level and prints the contents or calls modify_passage on an excerpt. This reads from the textbank including texts like Dracula, Sherlock Holmes, Frankenstein, and the digits of pi.

test_user():

Takes the user input and checks it against the provided passages from the text files. It does the timing and calculations for the words per minute and accuracy.

modify_passage():

Takes a chunk of text from the provided text files and modifies them based on the user's mode.

RESOURCES

Shelley, M. W. (2013, March 13). Frankenstein; or, the modern prometheus by Mary Wollstonecraft Shelley. Project Gutenberg. <https://www.gutenberg.org/ebooks/42324>

Stoker, B. (2023, November 12). *Dracula by Bram Stoker*. Project Gutenberg. <https://www.gutenberg.org/ebooks/345>

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Sean. (n.d.). 10,000 digits of pi. <https://www.ocf.berkeley.edu/~sean/pi>

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