

# Absize Report

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## Python

Python for me is much preferred to develop programs quickly as it is a smart language that will do a lot of things automatically, like for example knowing what type a variable is without the need to declare it beforehand. Due to this however it often makes it slower to run than other languages like java and C and so requires a lot of thought into efficiency when building programs. I have used Python for the majority of the other Etudes because it is the most comfortable for me to use as I have had the most experience using it. I also find that it is easier to read and debug than other alternatives because 90% of the time it requires less lines of code to do the same tasks and it can use words instead of symbols for a lot of things e.g. "and", "or", "not".

## Java

Java was the other language I chose to develop the program with. I have had some experience using it and am confident in my ability to transfer skills between different languages so it wasn't a difficult choice to make. When developing the program, the main thing that slowed me down was not knowing the correct syntax for a lot of the things. This wasn't a major hindrance for me as it is easy enough to google what things look like with correct syntax but it was mainly due to the lines being longer and having more parts to them than the python alternative. An example of this was with turning a hash set into an array in java versus turning a set into a list in python. The python code was `word_list = list(word_set)` while java was `String[] word_arr = word_set.toArray(String[]::new);`. As you can see it is a lot more complicated yet still does the same thing and so (especially for me) it is a lot harder to remember the correct syntax without a lot more practice. An advantage that java provides over python however is that it is usually faster running due to not needing to do behind the scenes calculation like python.

## Compared

When developing this specific program, Python was by far superior for me. I don't believe that the faster computations that java provides would be much of a benefit for it over python as neither program requires any time intensive calculations. I would be more likely to use java in the future for clients however because java is used a lot more universally than python due to being one of the most common languages used to develop applications. Although I prefer python, I do not mind using Java and I found that the time taken to build the program in java was about the same if not shorter than the time taken to build it in python due to being able to use pretty much the exact same structure and order of things.