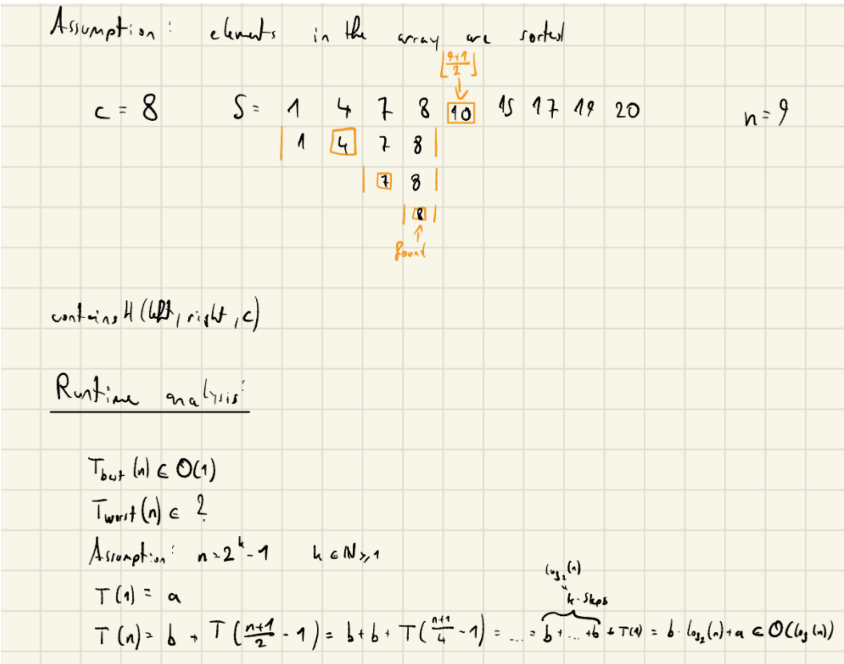
Note: The other Tasks were all done in the Files Main.cpp, Functions.h and Matrix.h. Also all Questions were answered directly in the implementation using comments.

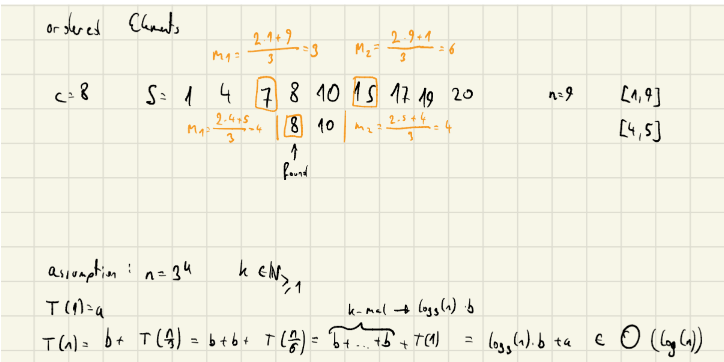
1 Task 7 - complexity analysis

Given the complexity analysis of Binary Search from the lecture:



The Binary search thus has a complexity of $\mathcal{O}(log_2(n))$ which in term is $\mathcal{O}(log(n))$.

For the complexity analysis of the Ternary search consider:



The Ternary search thus has a complexity of $\mathcal{O}(log_3(n))$ which in term is also $\mathcal{O}(log(n))$

We conclude, that both concepts have the same order of complexity. Although the Binary search needs less comparisons, which makes it the more efficient variant in most cases.