

Programming assignment 2.

Due date: Saturday, March 2 2019 at 11:30pm

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In this assignment, we will apply the idea of Binary Search algorithm to solve the below questions.

Note: The running time of your solutions should be $O(\log n)$.

Question 1. Implementing the square root function: Write a function that asks a user to enter an integer N and returns $\lfloor \sqrt{N} \rfloor$.

(**Note:** You are **NOT** allowed to use the predefined sqrt function in the programming language you are using)

Question 2. Ask the user to enter a random binary array having the first K numbers equal to 0 and the rest equal to 1. Write a function to find the position of K that splits the 0s and 1s.

(Example: input: $a = [0\ 0\ 0\ 1\ 1]$ \rightarrow output: $K = 3$)