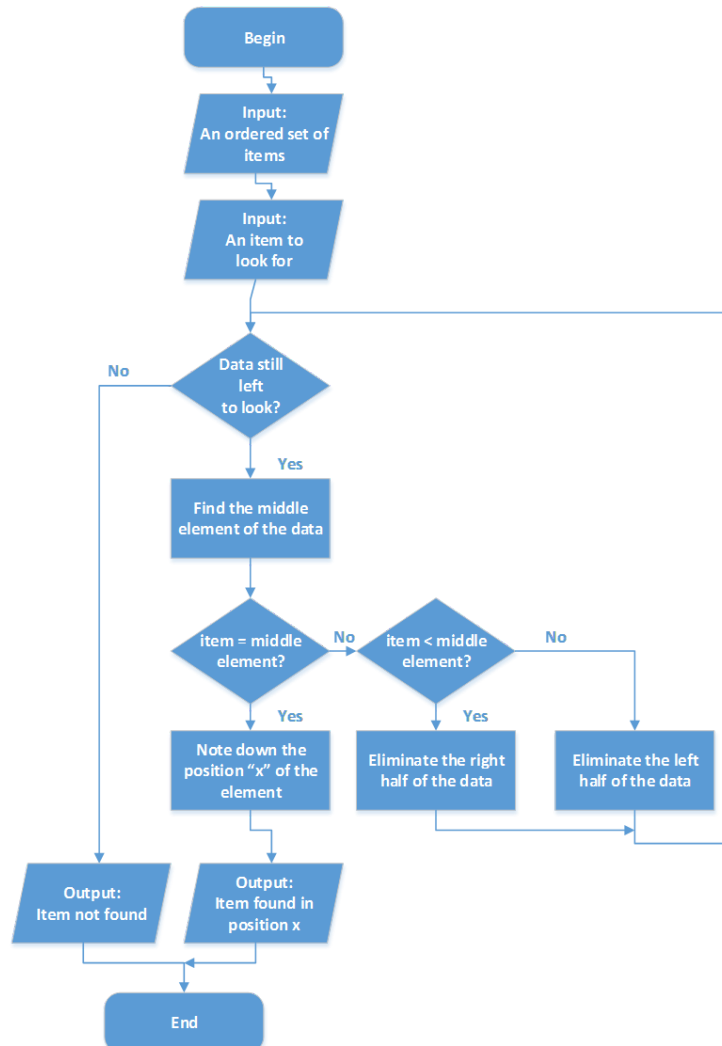


Questions: (* questions can be used for evaluation)

1. Let us first show the flowchart for binary search here again:



During the presentation, we demonstrated how this flowchart works for the following set of ten sorted numbers:

12	23	29	44	68	72	80	83	94	97
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We then looked for the number "37" which was not in that set. While "running" that example, we encountered the following blocks only once:

- Begin
- Input: An ordered set of items
- Input: An item to look for
- Output: Item not found
- End

Also, we did not encounter the following blocks at all:

- Note down the position "x" of the element



ii. Output: Item found in position x

Now, try and answer the following questions (a-b) about that example:

a) How many times did we encounter the decision block: "Data still left to look?"

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b) How many times was the answer to the "Item < middle element?" block a "Yes"?

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2. Given the same set of ten sorted numbers as below:

12	23	29	44	68	72	80	83	94	97
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How many times would we encounter the "Data still left to look?" block when looking for the number "83"?

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3. Let us say a computer is given a set of 100 sorted numbers and is searching for a number that is larger than the largest number in that set using the flowchart above. Can you find out how many times it would encounter the "Data still left to look?" block?

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Binary Search : FlowChart And Simulation

Work Sheet: 07-ALG-06-WS



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