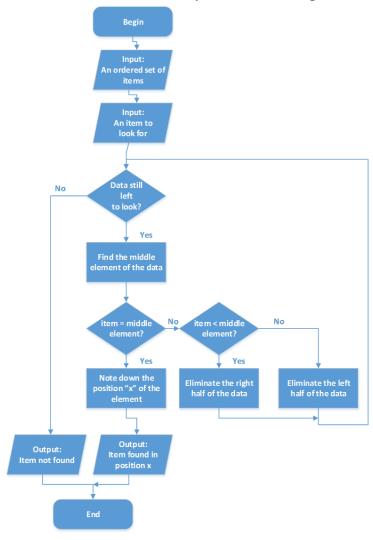


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Questions: (* questions can be used for evaluation)

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:

112 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:

i. Begin

ii. Input: An ordered set of items

iii. Input: An item to look for

iv. Output: Item not found

v. End

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

i. Note down the position "x" of the element

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ii. Output: Item found in position \boldsymbol{x}

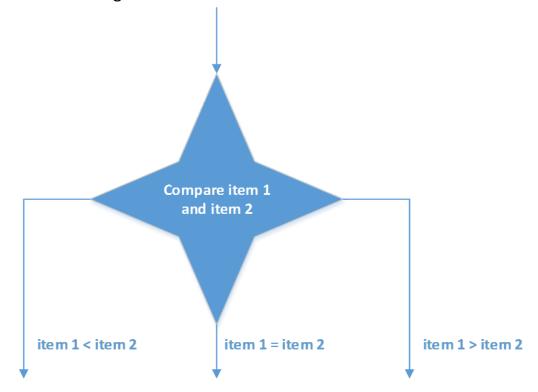
Ν	low, try	and a	nswer	the fol	lowing	quest	ions (a	a-b) ab	out th	at exa	ample:	
a)	How m	nany ti	mes di	d we e	ncoun	ter the	decisi	ion blo	ock: "D	ata st	ill left to	o look?"
												•••
b)	How m	nany ti	mes w	as the	answe	r to th	e "Iter	n < mi	ddle el	lemer	it?" bloo	ck a "Yes"?
												•••
		• • • • • • • • • • • • • • • • • • • •										•••
		• • • • • • • • • • • • • • • • • • • •				•••••	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •				
		• • • • • • • • • • • • • • • • • • • •				•••••	• • • • • • • • • • • • • • • • • • • •					
2	Civon	tha car	m o cot	of ton	cortos	امرسما	. o r c o c	halau				
۷.	Given	tne sar	ne set	or ten	sorted	num	oers as	below	/:			
		12	23	29	44	68	72	80	83	94	97	
		12	23	23	44	08	12	100	03	34	37	
	How m	nanv tii	mes wo	ould w	e enco	unter	the "D	ata sti	II left t	o loo	k?" bloc	k when
	looking	•				arreer	tire D	ata sti		.0 100	5.00	Wilen
3.	Let us	say a c	omput	ter is g	iven a	set of	100 so	rted n	umber	rs and	is searc	ching for a
	numbe	er that	is large	er thar	the la	rgest ı	numbe	er in th	at set	using	the flov	vchart
	above.	Can y	ou find	out h	ow ma	ny tim	es it w	ould e	encour	iter th	ne "Data	still left to
	look?"	block	?									
	•••••	• • • • • • • • • • • • • • • • • • • •					• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •				•••
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4. To draw the above flowchart, we used a total of 13 building blocks. We want to reduce that number and build it with fewer blocks. Let us say a diligent student like you has now designed a new block that looks like this:



Can you redraw the flowchart with the student's new building block?



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