


Iterative Binary search in C++																							
<pre>#include <iostream> #include <vector> using namespace std; int binsearch(const vector<int>& arr, int x) { int low = 0, high = arr.size() - 1; while (low <= high) { int mid = (low + high) / 2; if (arr[mid] == x) { return mid; } else if (arr[mid] > x) { high = mid - 1; } else { low = mid + 1; } } return -1; } int main() { vector<int> arr = {3, 5, 7, 8, 9}; cout << binsearch(arr, 8) << endl; return 0; }</pre>				Input Details																			
				<ul style="list-style-type: none">arr = {3, 5, 7, 8, 9}x = 8																			
				<div> Binary Search Table</div> <table><tr><th>Step</th><th>low</th><th>high</th><th>mid</th><th>arr[mid]</th><th>Comparison</th><th>Action</th></tr><tr><td>1</td><td>0</td><td>4</td><td>$(0+4)/2 = 2$</td><td>7</td><td>$7 < 8 \rightarrow \text{false}$</td><td>low = mid + 1 $\rightarrow 3$</td></tr><tr><td>2</td><td>3</td><td>4</td><td>$(3+4)/2 = 3$</td><td>8</td><td>$8 == 8 \rightarrow \text{true}$</td><td>Return 3</td></tr></table>			Step	low	high	mid	arr[mid]	Comparison	Action	1	0	4	$(0+4)/2 = 2$	7	$7 < 8 \rightarrow \text{false}$	low = mid + 1 $\rightarrow 3$	2	3	4
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2	3	4	$(3+4)/2 = 3$	8	$8 == 8 \rightarrow \text{true}$	Return 3																	
				✔ Output																			
				3																			
3																							