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| **Iterative Binary search in C++** | |
| #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;  } | **Input Details**   * arr = {3, 5, 7, 8, 9} * x = 8   **🧮 Binary Search Table**   | **Step** | **low** | **high** | **mid** | **arr[mid]** | **Comparison** | **Action** | | --- | --- | --- | --- | --- | --- | --- | | 1 | 0 | 4 | (0+4)/2 = 2 | 7 | 7 < 8 → false | low = mid + 1 → 3 | | 2 | 3 | 4 | (3+4)/2 = 3 | 8 | 8 == 8 → true | **Return 3** |   **✅ Output**  3 |
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