**Foundation University**

**School of Science and Technology**



**Data Structure Lab Report : 4**

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## Exercises:

1. In a large inventory of antique items, you are tasked with finding a specific vintage pocket watch based on its serial number. You must implement a sequential search algorithm to locate the watch within the collection of diverse antique items.
2. In a sorted list of 10 student records by student ID, you need to find the details of a particular student efficiently. Implement a suitable search code to locate the student's ID using their unique identification number.
3. In a classroom of 15 students, the teacher wants to organize the student's scores from the lowest to the highest. Implement a bubble sort algorithm to arrange the students' scores in ascending order, facilitating the ranking of their performance.

## Solution:

#include <iostream>

using namespace std;

int main() {

int n;

cout << "Enter number of antique items: ";

cin >> n;

int serial[100];

for (int i = 0; i < n; i++) {

cout << "Enter serial number of item " << i + 1 << ": ";

cin >> serial[i];

}

int search;

cout << "Enter serial number to find: ";

cin >> search;

int found = -1;

for (int i = 0; i < n; i++) {

if (serial[i] == search) {

found = i;

break;

}

}

if (found != -1)

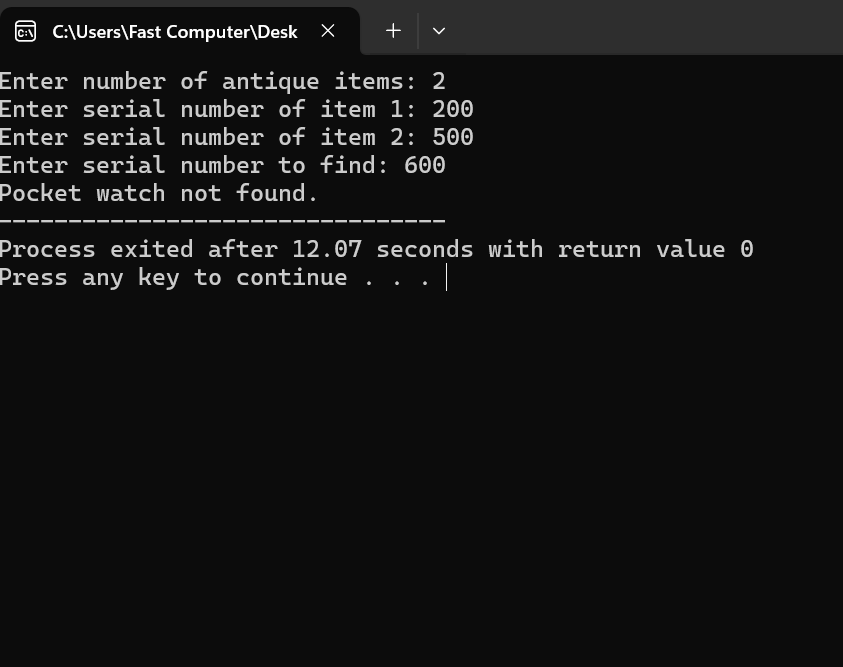
cout << "Pocket watch found at position " << found + 1;

else

cout << "Pocket watch not found.";

}

**Output:**

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