Problem Set 3 Exercise #15: Find Pair

Reference: Lecture 8 notes

Learning objective: Searching

Estimated completion time: 20 minutes

Problem statement:

Given an unsorted array of distinct integers and another integer **key**, check if there exist two different array elements **x** and **y** such that **x + y = key**.

For example, given an array {1, 5, 3, 4, 2} and **key** 7, 5 + 2 = 7 and 3 + 4 = 7.

Your program should contain function

```
int check_pair(int arr[], int size, int key)
```

that takes an unsorted array **arr** of **size** elements (**size** < 11) and a **key**, returns 1 if there exists at least 1 pair of integers whose sum equals **key**, or 0 otherwise.

Write a program **pair.c** for the above task.

Note:

You should avoid duplicate comparisons as much as possible.

Sample run #1:

```
Enter the number of distinct elements: 5
Enter 5 elements: 1 -2 3 8 6
Enter key: 4
Exist
```

Sample run #2:

```
Enter the number of distinct elements: 4
Enter 4 elements: 1 5 9 0
Enter key: 7
Not exist
```