Data Structure and Algorithms

Workshop

Problem Solving with Dictionaries

# Objectives

* Reinforcing what Dictionaries can do.
* Using Dictionaries to solve problems.

# Introduction

A Dictionary is a general-purpose ADT for storing a group of objects, in the form of key-value pairs. When presented with a key, the dictionary will return the associated value.

In this workshop, you are given some problems which can be solved using Dictionaries.

# Problem

Given two arrays of unordered numbers, check whether both arrays have the same set of numbers. If a number appears more than one times in an array, it has to appear the same number of times in the other array.

**Input**: A = {1, 3, 2, 4}; B = {2, 4, 1}

**Output**: false

**Explanation**: Number 3 in A, but not in B

**Input**: A = {1, 2, 4}; B = {2, 4, 1}

**Output**: true

**Explanation**: Number 1, 2, 4 are all in A and B

**Input**: A = {2, 4, 2, 4, 3}; B = {4, 2, 3, 4, 4}

**Output**: false

**Explanation**: There are two number 2 in A, but only one number 2 in B. A similar situation also happens for number 4.

**Input**: A = {2, 4, 2, 4, 3}; B = {4, 2, 3, 4, 2}

**Output**: true

**Explanation**: There are two number 2 in A and B, one number 3 in A and B, and two number 4 in A and B