A School's Quiz

Description

The math teacher in a primary school wrote on board a number of positive integers 'M'. The teacher gave the students another number 'N' and asked the students to collect from board the integers whose sum equals to 'N'. Note: **they can use each integer only once**. The winner is the first student who reaches the right answer. Determine the efficient algorithm that the winner used to find if the sum of any set of integers from the board gives 'N' or not.

Complexity

Your algorithm should take **polynomial time**

Input: **Already Implemented**

The first line of input is an integer T (T < 100,000), that indicates the number of test cases. Each case consists of a set of positive integers that are written on the board followed by the number of the items and the number that the teacher asks students to check against it.

Output: **Already Implemented**

For each case, output true if exists and false otherwise.

Functions: **Implement them!**

```
bool SchoolQuiz(int[] numbers, int N, int value)
```

Template

- C# template

Test Cases

M = 4, N = 10	Array = 2, 13, 8, 4	output: true
M = 10 N = 1038	Array = 1 1 4 6 8 1 700 300 10 11	output: true
M = 5, N = 13	Array = 5 10 15 20 25	output: false

C# Help

If you need any help regarding the syntax of C#, **ask any TA**.

Creating 1D array

```
int [] array = new int [size]
```

Creating 2D array

```
int [,] array = new int [size1, size2]
```

Sorting single array

Sort the given array in ascending order

```
Array.Sort(items);
```

Sorting parallel arrays

Sort the first array "master" and re-order the 2nd array "slave" according to this sorting

```
Array.Sort(master, slave);
```