WHAT IS AN

ALGORITHM

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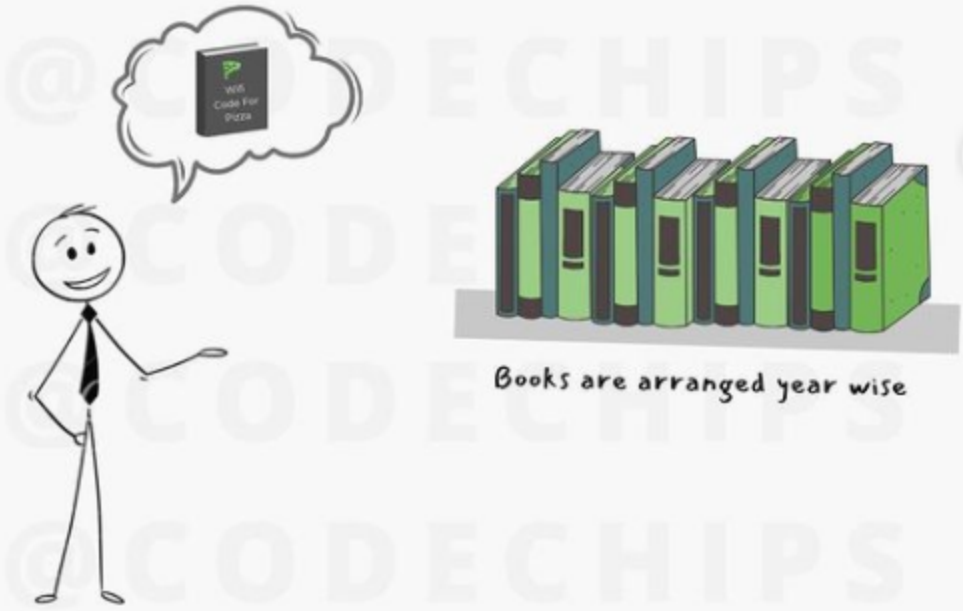
You are in a Library

You want to read the book
Will Code For Pizza - published in 2019



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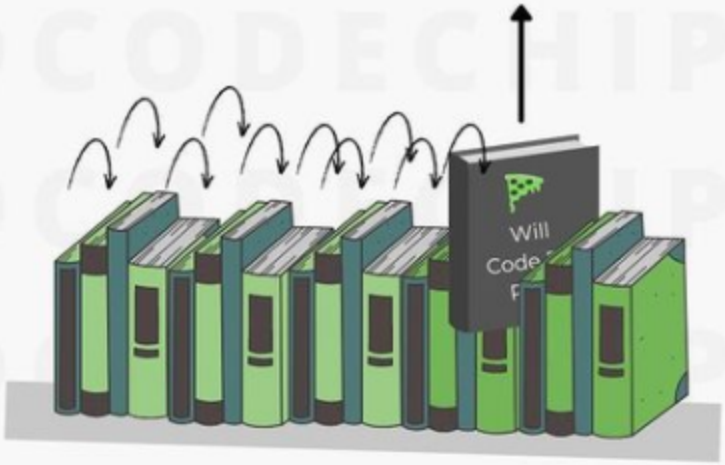
You give yourself a set of instructions to find the book

1 . Take the book one after another

2 . If title of book is Will code for Pizza
Pick the book and exit

3 . If title of book is not Will code for Pizza
Repeat Step 1



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This set of instructions is called an Algorithm

Algorithm

is a set of instructions given to the computer for solving some problem , in a step by step process

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But why is an Algorithm important ?

Because , The best chosen algorithm makes sure computer will do the given task at best possible manner

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Here you used Linear Searching Algorithm to find your book

This works fine, but what if there are **100's** or **1000's** of books. Then this method is not efficient

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That is when we need an alternate Algorithm to make it more efficient

Lets see Binary Search Algorithm

As the books are arranged in the order of years that can be used as an **index**

In this case assuming there is only one book for each year (for simplification)

1999 2021

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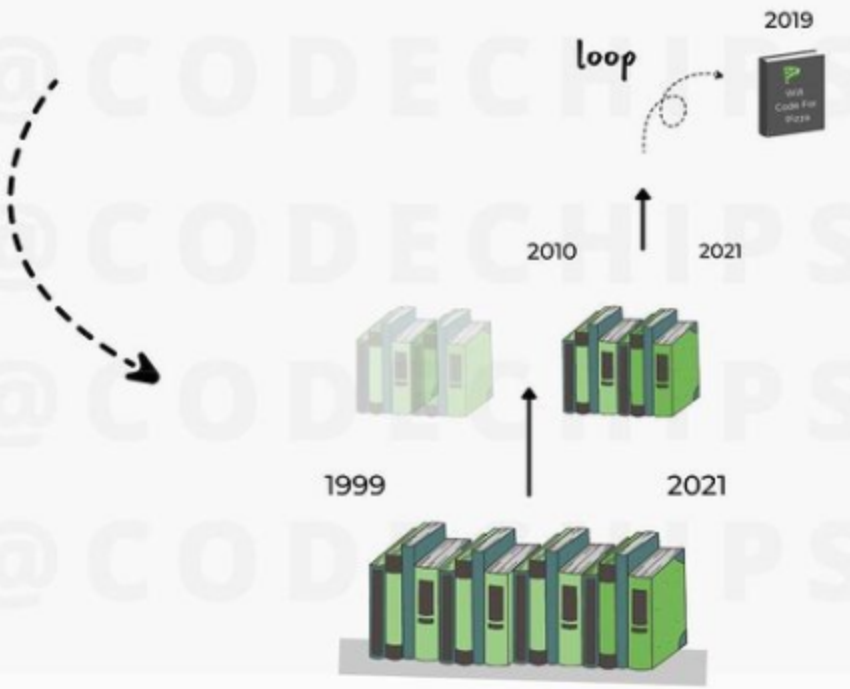
1. Take the center book of the stack

2. If year of book is less than 2019 go to the right stack and repeat step 1

3. If book year is greater than 2019 go to the left stack and repeat step 1

4. If year of book is equal to 2019 exit



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Binary Search Algorithm may involve an extra sorting process but when dealing with **huge data queries** it retrieves data much **faster** than Linear Search Algorithm

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