Sorting Algorithms

What is Bubble Sort Algorithm?

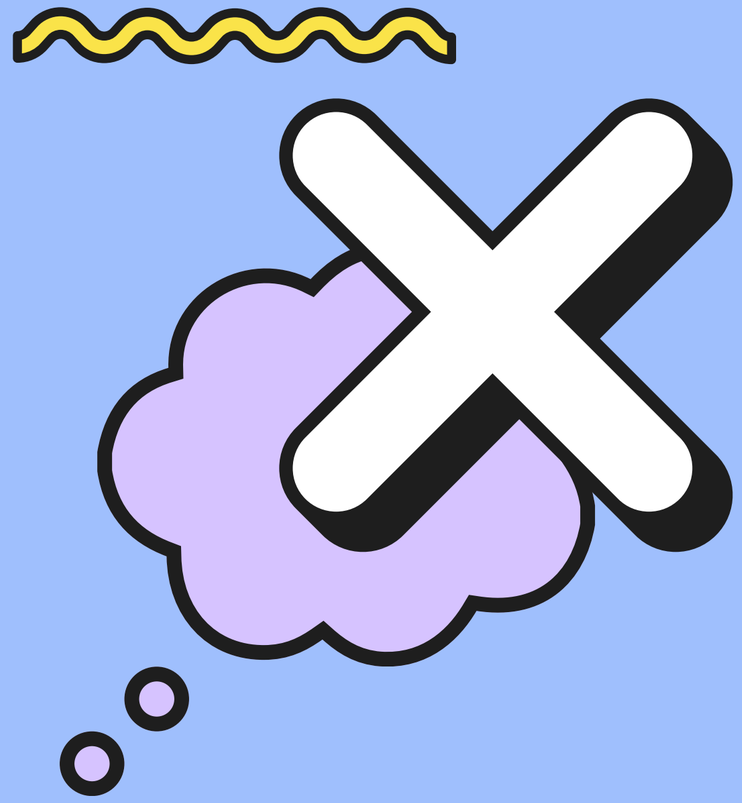
Sorting is an essential task in programming, and the bubble sort algorithm is one of the simplest and most commonly used methods.

As a beginner in solving algorithm questions or preparing for an interview, you might wonder how to implement this algorithm effectively.

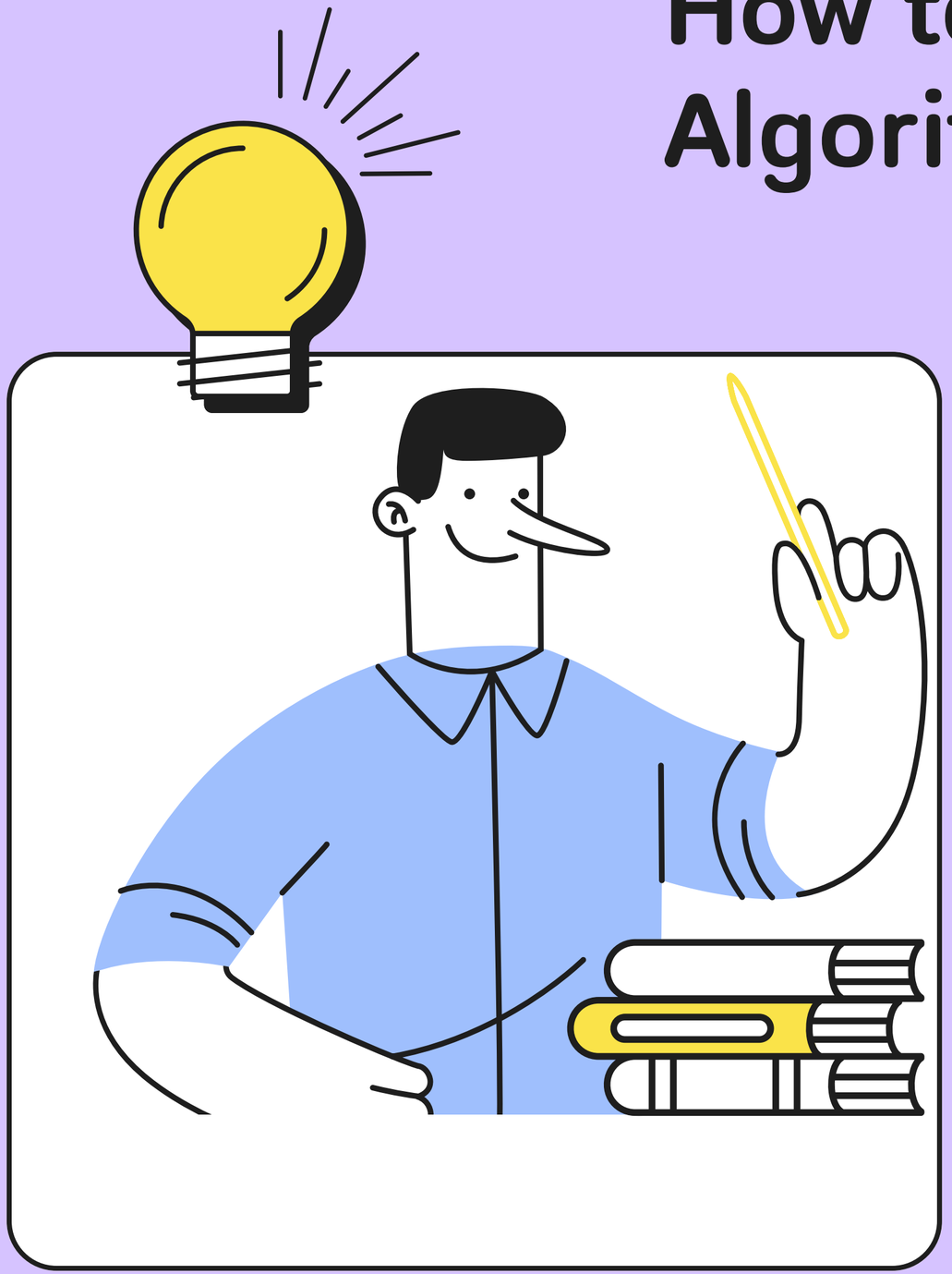
WHAT IS BUBBLE SORT ALGORITHM?

BUBBLE SORT ALGORITHM IS A SIMPLE SORTING TECHNIQUE THAT COMPARES TWO ADJACENT ELEMENTS IN AN ARRAY AND SWAPS THEM IF THEY ARE IN THE WRONG ORDER. IT KEEPS REPEATING THIS PROCESS UNTIL THE ARRAY IS SORTED.

FOR EXAMPLE, THE DIAGRAM BELOW ILLUSTRATES THE DIFFERENT SWAPS/BUBBLE THAT HAPPENS WHEN THE ELEMENT ON THE LEFT IS GREATER THAN THE ELEMENT ON THE RIGHT.



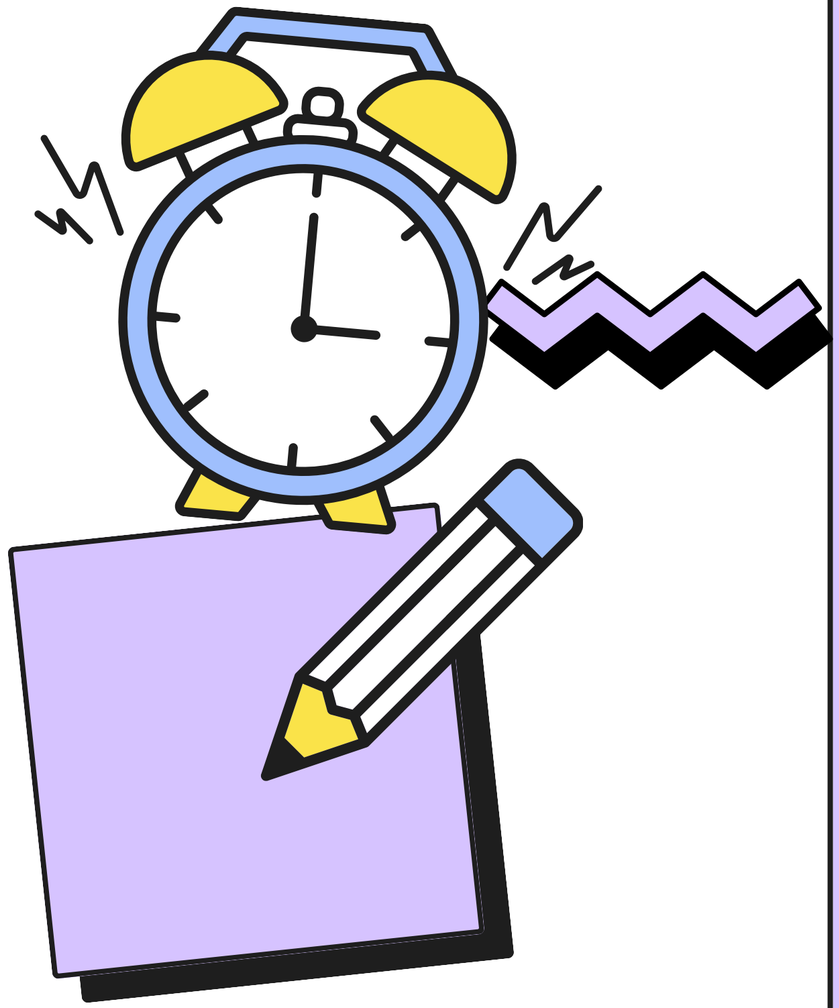
How to Implement Bubble Sort Algorithm With Javascript

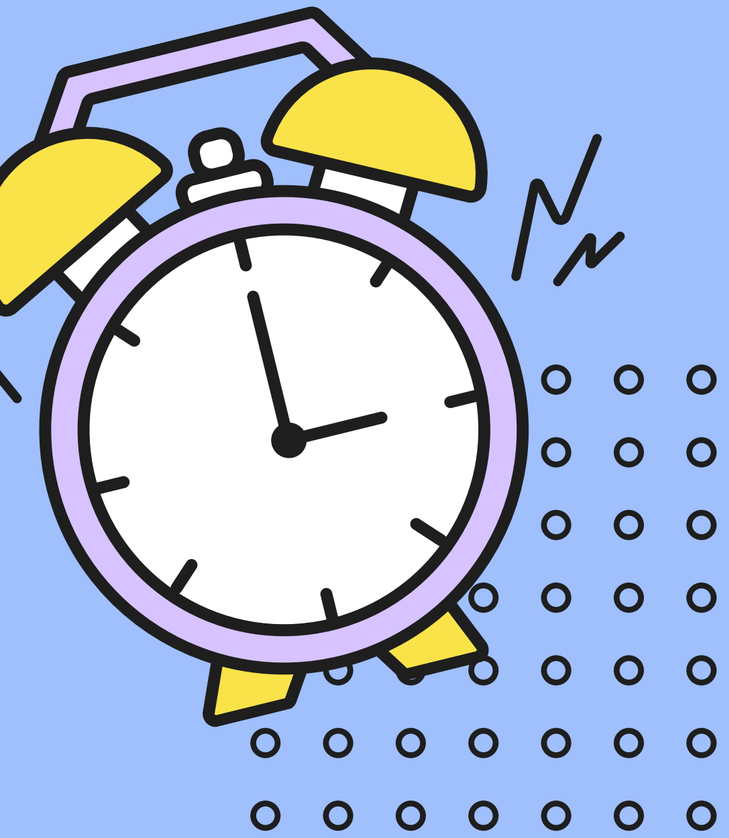


```
var arr = [7, 4, 9, 1, 52, 18, 20, 24]

var baza

for (let i = 0; i < arr.length; i++) {
  for (let k = 0; k < arr.length - 1 - i; k++) {
    if (arr[k] > arr[k + 1]) {
      baza = arr[k]
      arr[k] = arr[k + 1]
      arr[k + 1] = baza
    }
  }

}

console.log(arr);
```

WHAT IS THE ALGORITHM OF SELECTION SORT?

- *1. FIND THE SMALLEST ELEMENT AND SWAP IT WITH THE FIRST ELEMENT.*
- *2. FIND THE SECOND SMALLEST ELEMENT AND SWAP IT WITH THE SECOND ELEMENT.*
- *3. FIND THE THIRD SMALLEST ELEMENT AND SWAP IT WITH THE THIRD ELEMENT.*
- *...*
- *N. FIND THE NTH SMALLEST ELEMENT AND SWAP IT WITH THE NTH ELEMENT. DO THIS TILL THE ARRAY IS SORTED.*
- *THAT'S HOW SELECTION SORT WORKS. IT SELECTS THE NEXT SMALLEST ELEMENT AND SWAPS IT INTO ITS PLACE.*

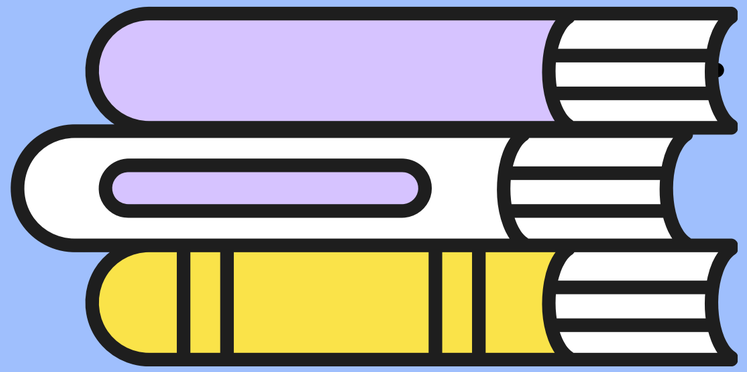




MIN

5 2 4 6 1 3

SORTED | UNSORTED



SELECTION SORT IN JAVASCRIPT

```
//Selection Sort :
var arr = [7, 4, 9, 1, 52, 18, 20, 24]
var baza
for (let i = 0; i < arr.length; i++) {
  var min = i
  for (let k = i + 1; k < arr.length; k++) {
    if (arr[k] < arr[min]) {
      min = k
    }

  }
  baza = arr[min]
  arr[min] = arr[i]
  arr[i] = baza
}

console.log(arr);
```

THANK YOU!