the size is created & data is copyied to this & so on.

8/9/22

Linear Search Algorithm :-

- An algorithm used to search (very basic)
- iterates till it finds the element it's looking for linearly. (In sequence, one after another).
- "-1" (return -1) is used to indicate the value is not found or doesn't exist.
- Time Complexity :- Best O(1) // constant
  worst O(N) // Size of array.
- Linear Search can be performed on unsorted/sorted arrays.
  - Best case? finding the element in 0. first index
  - worst case? Not finding the element i.e Go through all indexes but not find or at last index.
- Space complexity is also constant.

Pseudo Code :-

```
function (arr, element)
    if (length == 0) { return -1 }
    for (i=0; i<arr.length; i++) { if (element == target) {
                                       return; } }
```

* for int. array length → arr. length

for String array / 2d array → str. length()

↓ var_name ↳ function call.

* var_name.toCharArray() // Syntax

Eg:

```
sout(Arrays.toString(v_n.toCharArray()));
```

→ used to convert a String into a char Array.

* Always write all edge cases or Assumptions like Array is empty or negative number.

If negative, Convert

Eg:→

```
if (x < 0) {
    x = x * -1;
```

* one way to find no.. of digits in a number

=> (int) (Math.log10(num)) + 1;

↓ base