Linear Search in Java + Questions

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- Step 1: Traverse the array
- Step 2: Match the key element with array element
- Step 3: If key element is found, return the index position of the array element
- Step 4: If key element is not found, return -1

"Start searching till you find the required element."

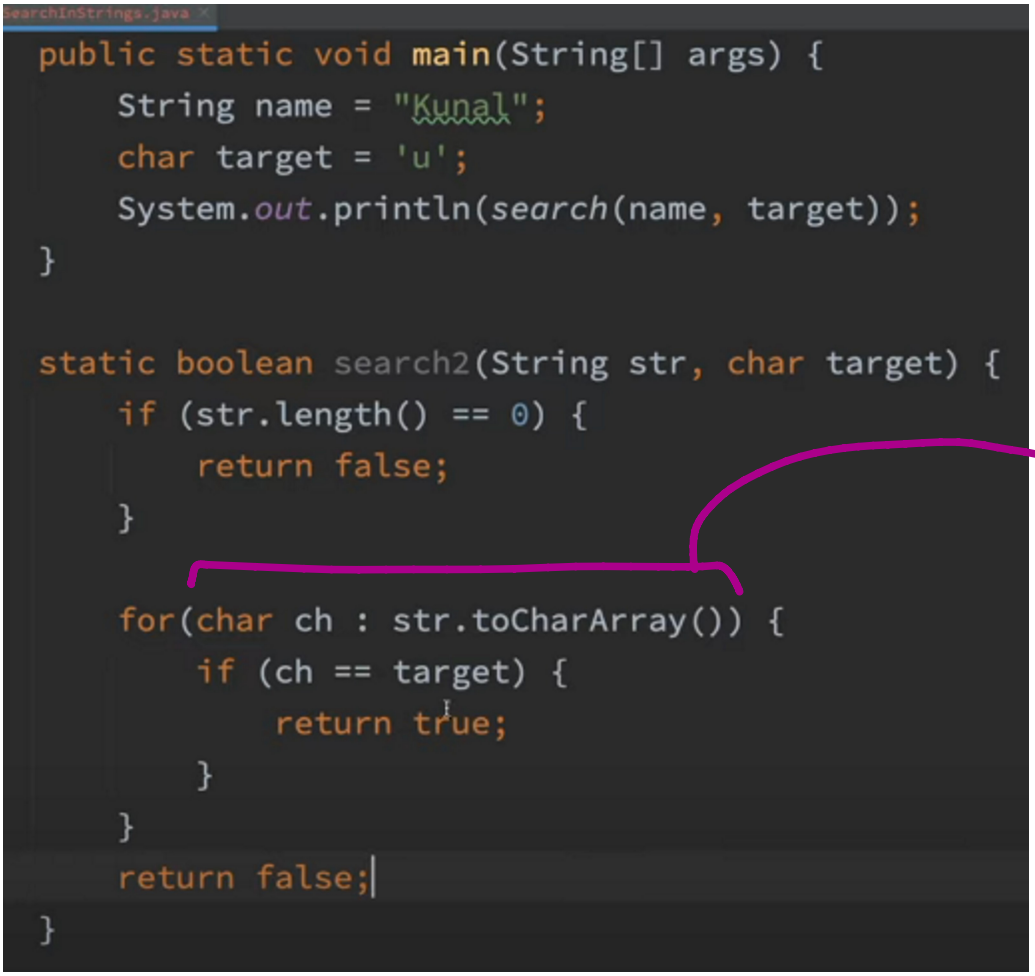
Integer.MAX_VALUE; --> constants are written in caps.

NOTE:- To find length of array and string…
Arr.length; //for arrays
AND
Str.length(); //for strings

Linear Search Example :-

```
public class LinearSearchExample{
public static int linearSearch(int[] arr, int key){
        for(int i=0;i<arr.length;i++){
            if(arr[i] == key){
                return i;
            }
        }
        return -1;
    }
    public static void main(String a[]){
        int[] a1= {10,20,30,50,70,90};
        int key = 50;
        System.out.println(key+" is found at index: "+linearSearch(a1, key));
    }
}
```

Example for Strings :-



Making an array of characters of the string.

Codes for different Programming Languages.
[Linear Search - GeeksforGeeks]

Searching in 2D array....

```java
static int[] search(int[][] arr, int target) {
    for (int row = 0; row < arr.length; row++) {
        for (int col = 0; col < arr[row].length; col++) {
            if (arr[row][col] == target) {
                return new int[]{row, col};
            }
        }
    }
    return new int[]{-1, -1};
}
```

NOTE: 1764 + "" = "1764"

To find no. Of digits (Trick)

```java
static int digits2(int num) {
    if (num < 0) {
        num = num * -1;
    }
    return (int)(Math.log10(num)) + 1;
}
```

To find no. Of digits in binary representation use log2.