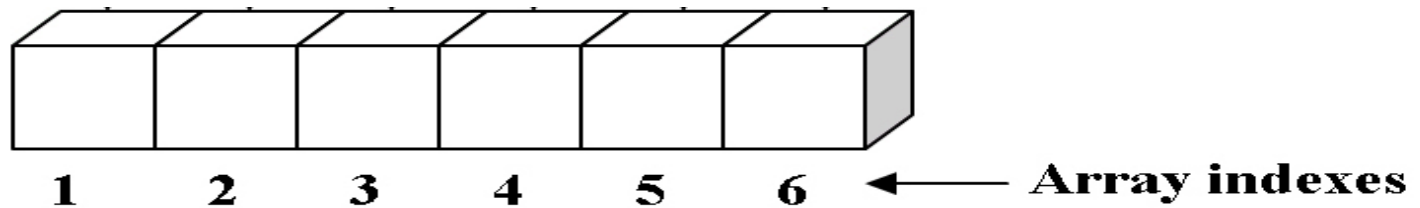# Udemy

Algorithms and Data Structures in Java

Lecture: Serial Search Algorithm

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Serial Search Algorithm

5	9	12	3	1	6

initialize Array :   OR

int [] a ={5,9,12,3,1,6};

initialize Array :

Int [] a = new int[6] ;

a[0] = 5;

a[1] = 9;

a[2] = 12;

a[3] = 3;

a[4] = 1;

a[5] = 6;

Serial - Linear Search Algorithm

Number = 1 ;

5	9	12	3	1	6

a[0] != Number;

Serial Search Algorithm

Number = 1 ;

5	9	12	3	1	6

a[0] != Number; ✖

5	9	12	3	1	6

a[1] != Number; ✖

Serial Search Algorithm

Number = 1 ;

5	9	12	3	1	6

a[0] != Number; ✖

5	9	12	3	1	6

a[1] != Number; ✖

5	9	12	3	1	6

a[2] !=number; ✖

Serial Search Algorithm

5	9	12	3	1	6

a[3] != Number;

Serial Search Algorithm

5	9	12	3	1	6

a[3] != Number; ❌

5	9	12	3	1	6

a[4] == Number; ✅

Serial Search Algorithm

5	9	12	3	1	6

a[3] != Number; ✖

5	9	12	3	1	6

a[4] == Number; ✔
step = 5 !

Serial Search Algorithm Worst case

Number = 7;

5	9	12	3	1	6

a[0] !=Number;

Serial Search Algorithm
Worst case

Number = 7;

5	9	12	3	1	6

a[0] !=Number;

5	9	12	3	1	6

a[1] !=Number;

Serial Search Algorithm
Worst case

Number = 7;

5	9	12	3	1	6

a[0] !=Number;

5	9	12	3	1	6

a[1] !=Number;

5	9	12	3	1	6

a[2] !=Number;

Serial Search Algorithm
Worst case

Number = 7;

5	9	12	3	1	6

a[3] !=Number;

Serial Search Algorithm Worst case

Number = 7;

5	9	12	3	1	6

a[3] !=Number; ❌

5	9	12	3	1	6

a[4] !=Number; ❌

Serial Search Algorithm
Worst case

Number = 7;

5	9	12	3	1	6

a[3] !=Number; ✖

5	9	12	3	1	6

a[4] !=Number; ✖

5	9	12	3	1	6

a[5] !=Number; ✖

Serial Search Algorithm
Worst case

Number = 7;

5	9	12	3	1	6

a[3] !=Number; ✖

5	9	12	3	1	6

a[4] !=Number; ✖

5	9	12	3	1	6

a[5] !=Number; ✖

step = 6 = array size !

Serial Search Algorithm
Best case

Number = 5;

5	9	12	3	1	6

a[0] = Number; ✔

Serial Search Algorithm
Best case

Number = 5;

5	9	12	3	1	6

a[0] = Number; ✔

step = 1 !

Serial Search Algorithm Code

```
int flag = -1;
for ( int i = 0 ; i<6 ; i++){
        if ( Number == a[i]){
            System.out.println("Was found");  ✔
             flag = 0;

          i = 6 ;
          }
      }
    if (flag == -1)                           ✖
        System.out.println("Was not found");
```