Arrays

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Array

- An array is a special type of variable that can hold multiple values of the same data type simultaneously.
- An array is an object that stores the collection of values
- One variable is used to store multiple items of same type and same variable is used to modify the items

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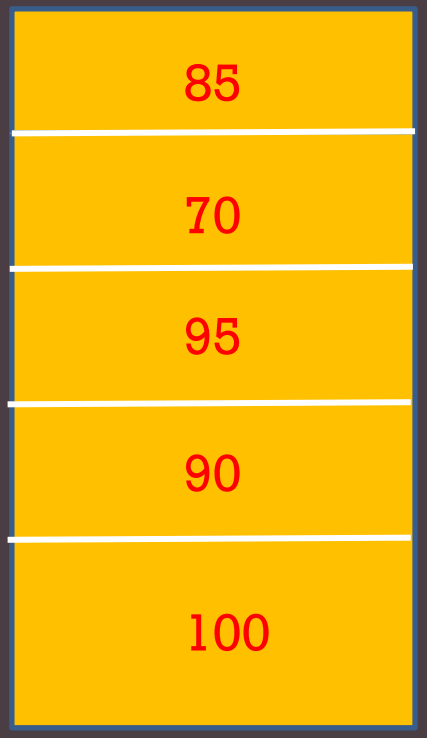

scores

names

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Declaring arrays

- There are 2 ways to declare one-dimensional Arrays:

1. Specify the type(primitive or object), and then specify square brackets[] and finally the array variable name.

```
int[] scores;
String[] names;
Student[] students;
```

2. Specify the type(primitive or object), and then specify the array variable name which is followed by square brackets []

```
int scores[];
String names[];
Student students[];
```

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Instantiating arrays

➢To instantiate one dimensional array, use the keyword new, followed by type and then finally specify the size within square brackets[]

1. Declare and instantiate in separate statements

```
int[] scores;
scores = new int[4];
```

```
String[] names;
names = new String[5];
```

2. Declare and instantiate in single statement.

```
int[] scores = new int[4];
String[] names = new String[5];
```

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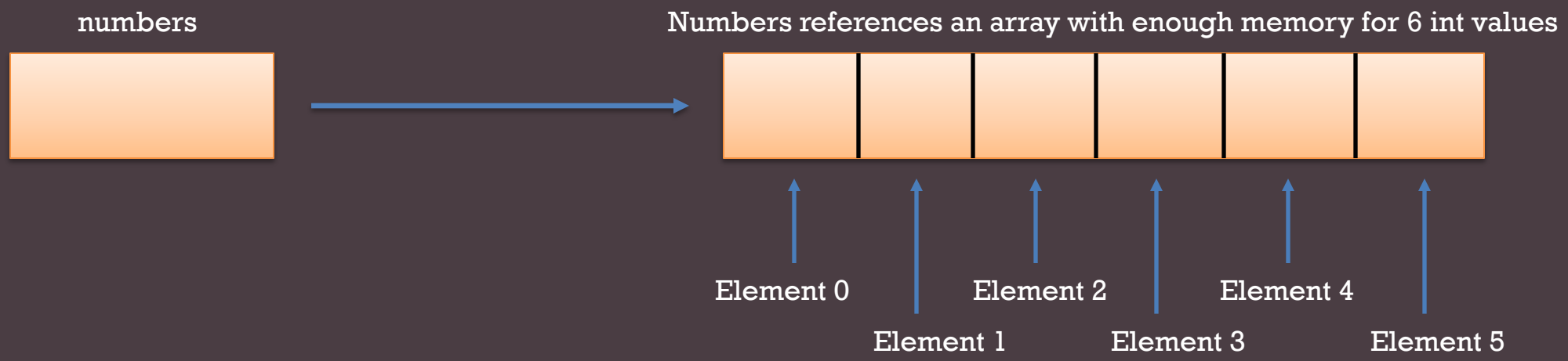
numbers
Numbers references an array with enough memory for 6 int values
Element 0
Element 1
Element 2
Element 3
Element 4
Element 5

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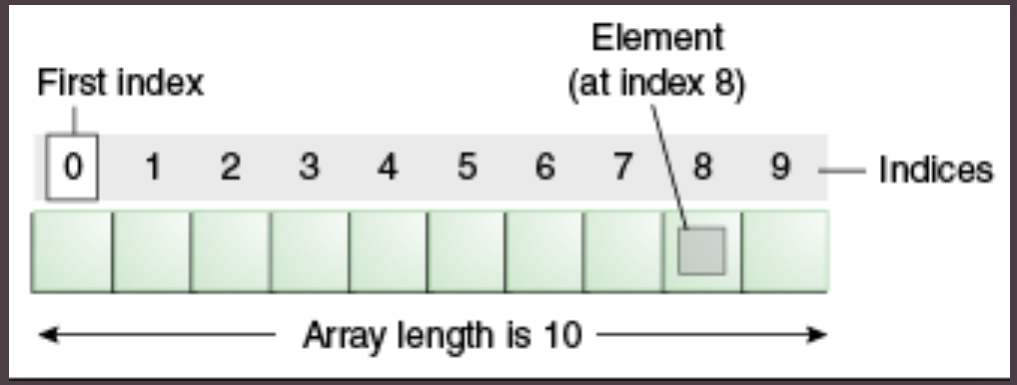
Accessing Array Elements

You can access elements of an array by using the square brackets []. The first element of the array start with 0, the second element starts with 1, and so on.



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Assigning values to Array Elements

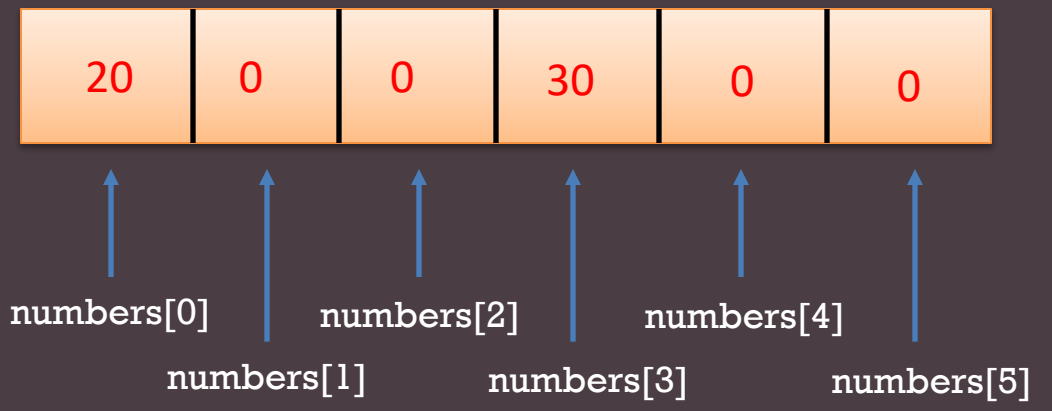
```
numbers[0] = 20;
```

arrayRefVar

index

value

```
numbers[3] = 30;
```



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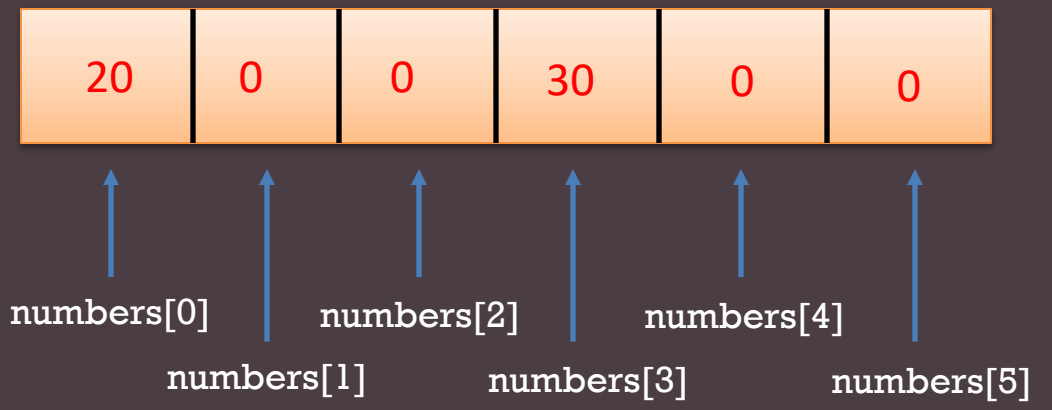
Reading values from Array Elements

```
System.out.println(numbers[0]);  //20
System.out.println(numbers[1]);  //0
System.out.println(numbers[2]);  //0
System.out.println(numbers[3]);  //30
System.out.println(numbers[4]);  //0
System.out.println(numbers[5]);  //0
```



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Task

Create an array that holds 12 months names
User should be able to enter month index and output should be:

"The month name is <MonthName>"

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Task

Create an array that holds the days
User should be able to enter the day index and output should be:

"Today is Monday"

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