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C Arrays

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Arrays

Arrays are used to store multiple values in a single variable, instead of declaring separate variables for each value.

To create an array, define the data type (like `int`) and specify the name of the array followed by **square brackets []**.

To insert values to it, use a comma-separated list, inside curly braces:

```
int myNumbers[] = {25, 50, 75, 100};
```

We have now created a variable that holds an array of four integers.

Access the Elements of an Array

To access an array element, refer to its **index number**.

Array indexes start with **0**: [0] is the first element. [1] is the second element, etc.

This statement accesses the value of the **first element [0]** in `myNumbers` :

Example

```
int myNumbers[] = {25, 50, 75, 100};
printf("%d", myNumbers[0]);

// Outputs 25
```

Try it Yourself »

Change an Array Element

To change the value of a specific element, refer to the index number:

Example

```
myNumbers[0] = 33;
```

Example

```
int myNumbers[] = {25, 50, 75, 100};
myNumbers[0] = 33;

printf("%d", myNumbers[0]);

// Now outputs 33 instead of 25
```

Try it Yourself »

Loop Through an Array

You can loop through the array elements with the `for` loop.

The following example outputs all elements in the `myNumbers` array:

Example

```
int myNumbers[] = {25, 50, 75, 100};
int i;

for (i = 0; i < 4; i++) {
  printf("%d\n", myNumbers[i]);
}
```

Try it Yourself »

Set Array Size

Another common way to create arrays, is to specify the size of the array, and add elements later:

Example

```
// Declare an array of four integers:
int myNumbers[4];

// Add elements
myNumbers[0] = 25;
myNumbers[1] = 50;
myNumbers[2] = 75;
myNumbers[3] = 100;
```

Try it Yourself »

Using this method, **you should know the size of the array,** in order for the program to store enough memory.

You are not able to change the size of the array after creation.

C Exercises

Test Yourself With Exercises

Exercise:

Create an array of type `int` called `myNumbers` .

```
{25, 50, 75, 100};
```

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Start the Exercise

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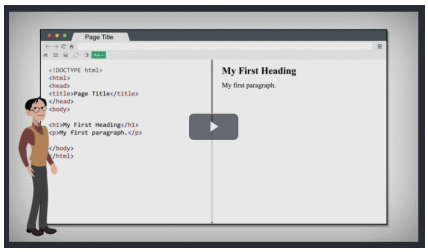

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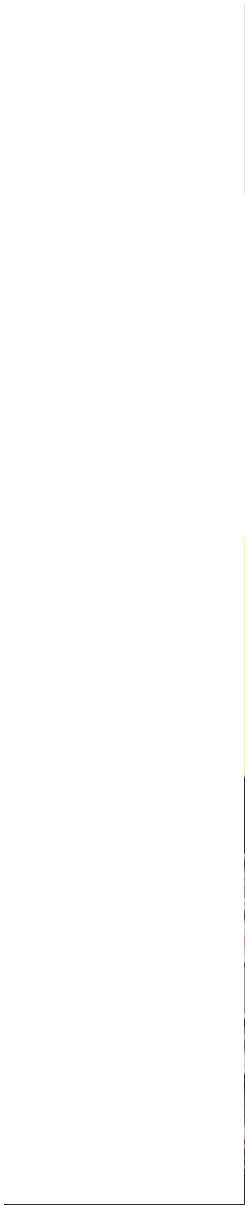

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