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Related posts:

An array is a collection of similar data items stored at contiguous memory locations.

For example,

## Example 01:

Array initialization:

```
int a[6] = {2, 4, 6, 8, 10, 12};
```

In above example,

- int is the type of the array
- 'a' is the name of the array
- a[6] shows number of elements in array
- Bracket {}, contains the array elements.
- Each element in array has its unique index number.

Index numbers of array elements in above example,

- 2 has index number 0
- 4 has index number 1
- 6 has index number 2
- 8 has index number 3
- 10 has index number 4
- 12 has index number 5

Example 02:

```
int a[ ] = {2, 4, 6, 8, 10, 12};
```

This example is same as example 01 above. Only size of a[ ] is not defined.

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## Types of arrays

### One-dimensional array:



Multi-dimensional array:

Two-dimensional array



Three-dimensional array

Three-dimensional array is like a cuboid.



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## Syntax for arrays

One-dimensional array  
`int arr[i];`

Two-dimensional array

```
int arr[i][j];
```

Three-dimensional array

```
int arr[i][j][k];
```

---

## Operations on array

1. Traversal : Visiting each element once.
2. Insertion : Process of inserting one or more elements in an array.
3. Deletion : Process of deleting one or more elements in an array.
4. Searching : Process of searching specific value in an array.
5. Sorting : Process of arranging elements in an array.

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## How to access array elements ?

Here the array index number is used.

```
#include <stdio.h>
int main() {
int a[5] = {2,4,6,8,10};
printf("%d\n",a[0]); // Accessing using index number
```

```
printf("%d\n",a[1]);  
printf("%d\n",a[2]);  
printf("%d\n",a[3]);  
printf("%d",a[4]);  
return 0;  
}
```



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