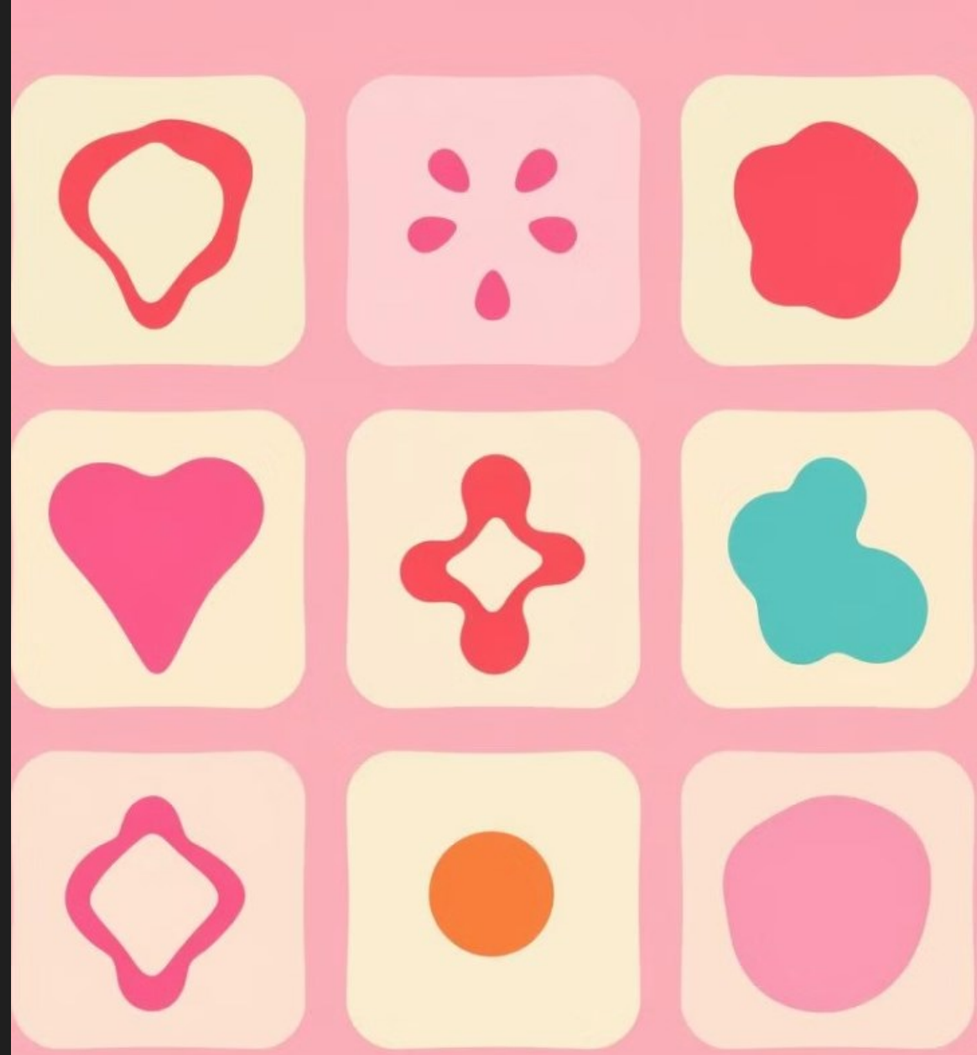
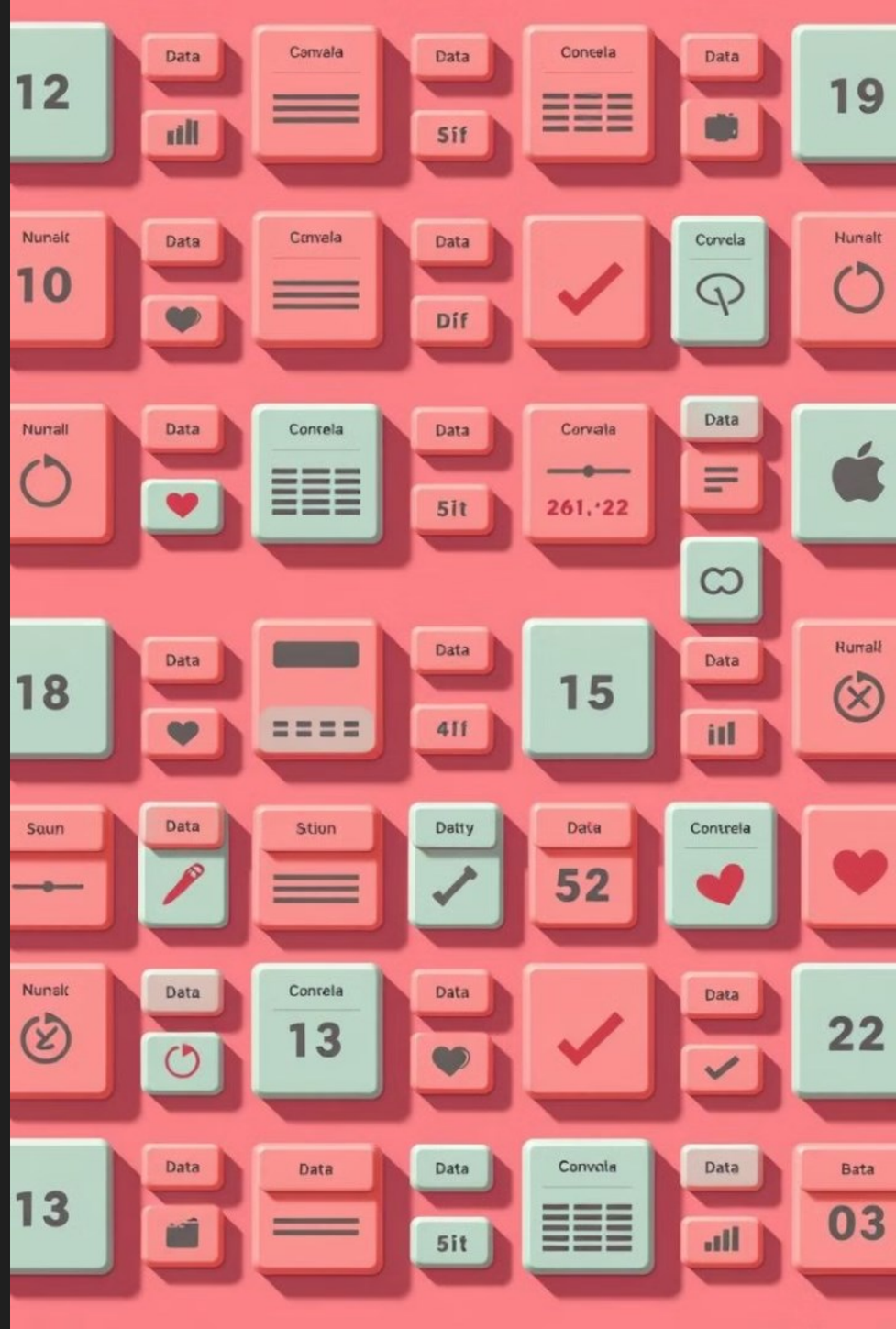
Arrays in C Language

Array គឺជា Data Structure ដែលអាចផ្ទុកតម្លៃបានច្រើននៅក្នុង Variable តែមួយ ហើយវាត្រូវតែមាន data type ដូចគ្នា។



Array បានរក្សាទុកធាតុ**(element)** របស់វាតាមរយៈ **index** ដូច្នេះយើងអាចទាញយកធាតុតាម **index** បានដូចគ្នា។



Advantages of Arrays

- **Efficient Data Management**: Arrays allow you to store multiple values of the same type using a single variable, reducing clutter in your code.
- **Easy Access**: You can quickly access any element using an index, making data retrieval simple and fast.
- **Memory Efficiency**: Arrays store data in contiguous memory locations, which can improve performance when working with large datasets.
- **Looping Capability**: You can easily loop through arrays to perform operations on multiple elements at once.
- **Fixed Size**: Arrays help manage fixed-size data efficiently, like handling lists of known size (e.g., student marks, prices).

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
```

Change an Array Element

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

Example

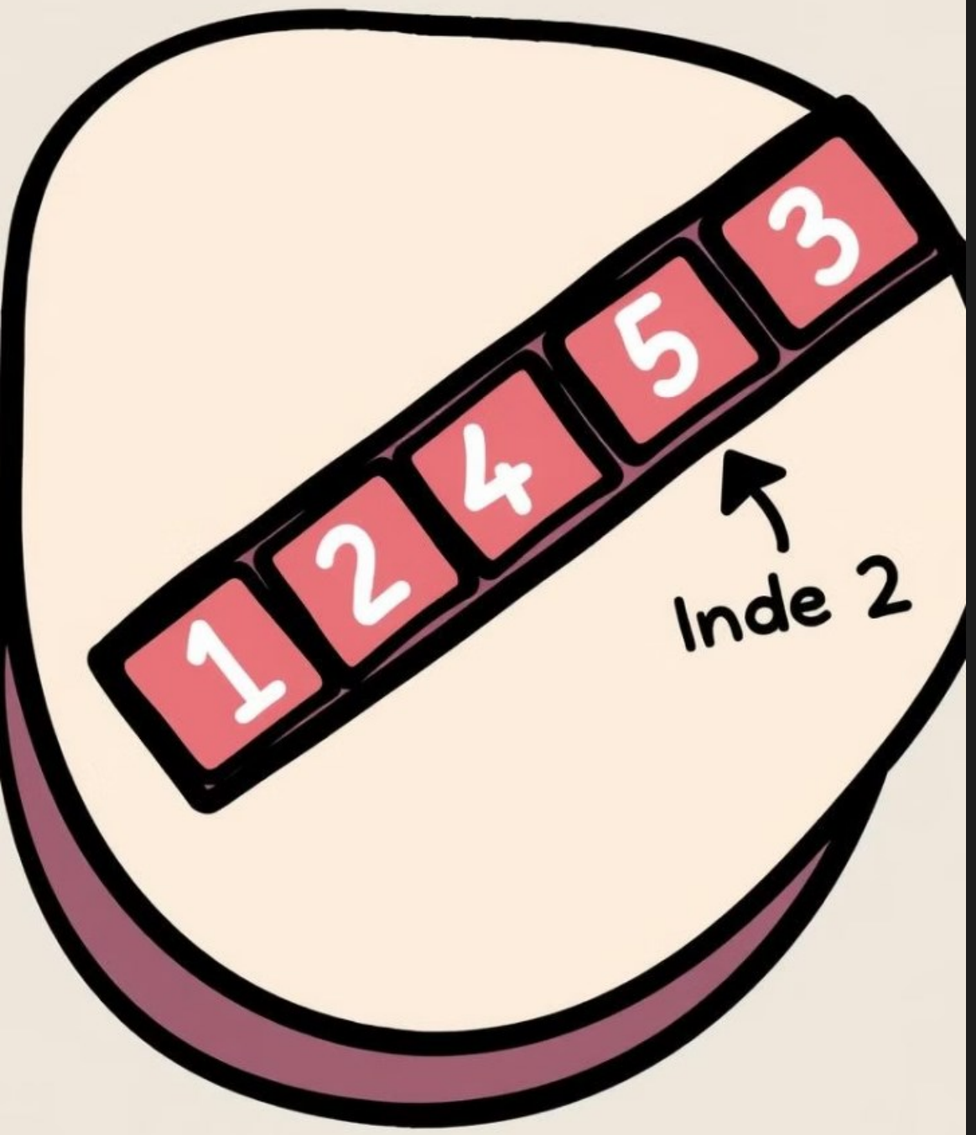
```
myNumbers[0] = 33;
```

Example

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

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

// Now outputs 33 instead of 25
```



#include <stdio.h>

int main() { int numbers[3]; // Declare an array of size 3 int sum = 0;

```
// Input elements into the array
printf("Enter 3 numbers:\n");
for(int i = 0; i < 3; i++) {
    scanf("%d", &numbers[i]);
}

// Calculate the sum of the array elements
for(int i = 0; i < 3; i++) {
    sum += numbers[i];
}

// Output the sum
printf("Sum of numbers = %d\n", sum);

return 0;
```

}

Array Exercise: Finding the Largest Element

Write a program that stores 3 numbers in an array and prints each number.