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***REPORT #: W:4,D:4***

***TASK TITLE Loops (for, while, do-while), Arrays***

### 🔁 Loops in C++

Loops allow repeating a block of code multiple times.

#### ****1.**** for ****loop****

Used when the number of iterations is known.

for (int i = 0; i < 5; i++) {

cout << i << " ";

}

#### ****2.**** while ****loop****

Used when the condition is checked **before** the loop body.

int i = 0;

while (i < 5) {

cout << i << " ";

i++;

}

#### ****3.**** do-while ****loop****

Used when the loop body should run **at least once**, condition checked **after**.

int i = 0;

do {

cout << i << " ";

i++;

} while (i < 5);

### 📦 Arrays in C++

An array is a **collection of elements** of the **same type**, stored in **contiguous memory**.

#### ****Syntax:****

int numbers[5] = {10, 20, 30, 40, 50};

#### ****Accessing Elements:****

cout << numbers[0]; // prints 10

#### ****Using Loops with Arrays:****

for (int i = 0; i < 5; i++) {

cout << numbers[i] << " ";

}