**C++ 101 – Session 3 Notes**

**1. The do-while Loop**

The do-while loop is a **post-test loop**, meaning the condition is checked **after** the code inside the loop runs. This guarantees the loop runs **at least once**, even if the condition is false from the beginning.

**📌 Syntax:**

do {

// code block

} while (condition);

**✅ Example:**

int password;

do {

cout << "Enter password: ";

cin >> password;

} while (password != 1234);

cout << "Access granted!";

**📝 Output (if user enters wrong password first):**

Enter password: 1111

Enter password: 0000

Enter password: 1234

Access granted!

**2. Key Difference: while vs do-while**

| **Feature** | **while loop** | **do-while loop** |
| --- | --- | --- |
| Condition checked | **Before** the loop runs | **After** the loop runs |
| Guaranteed to run once? | ❌ Not guaranteed | ✅ Always runs at least once |
| Best use case | When you may **not need** to run the loop | When you need to run it **at least once** |

**🛠️ 3. Task Reminder**

At the end of the session, your assignment was:

**✅ Task:**

Write a C++ program that demonstrates the practical use of a do-while loop.

💡 You can choose any idea, for example:

* A simple menu-driven program that repeats until the user chooses to exit
* A guessing game that allows multiple tries

Be creative and be ready to **present your code** in the next session!