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!
```

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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!