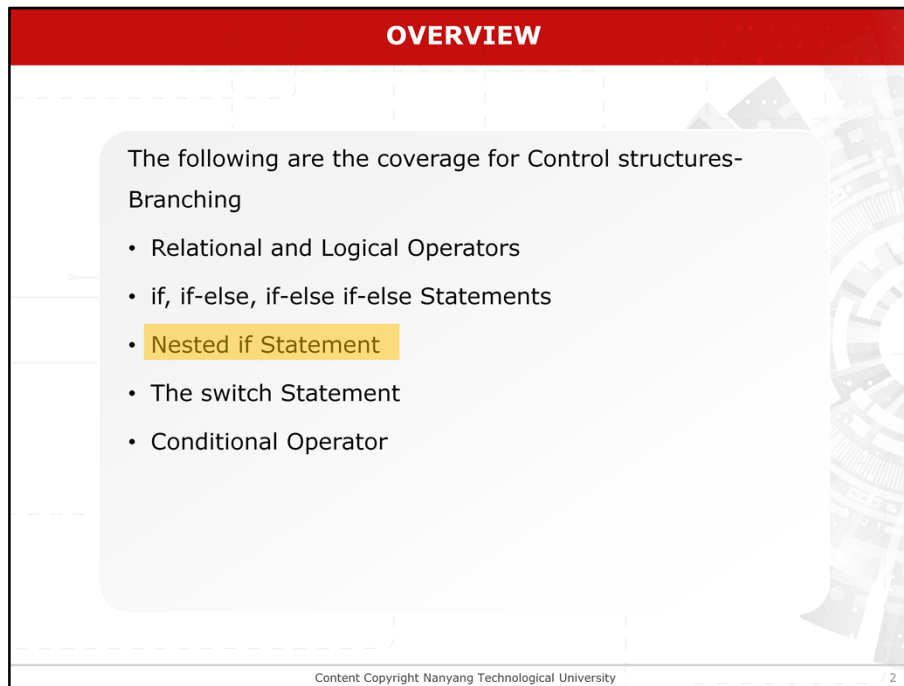


This lesson is on control structure branching

The slide features a red header with the word "OVERVIEW" in white. Below the header, a light gray rounded rectangle contains the text "The following are the coverage for Control structures-Branching" followed by a bulleted list. The list items are: "Relational and Logical Operators", "if, if-else, if-else if-else Statements", "Nested if Statement" (highlighted with a yellow background), "The switch Statement", and "Conditional Operator". The background of the slide has a faint, stylized architectural pattern. At the bottom, a thin gray bar contains the text "Content Copyright Nanyang Technological University" on the left and the number "2" on the right.

OVERVIEW

The following are the coverage for Control structures-Branching

- Relational and Logical Operators
- if, if-else, if-else if-else Statements
- **Nested if Statement**
- The switch Statement
- Conditional Operator

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Basic C Programming

There are 5 main sections to cover for Control structures (branching).

This video lesson focuses on the third part. Nested if statements.



Learning objectives

LEARNING OBJECTIVES

After this lesson, you should be able to:

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The slide features a red header with the text 'LEARNING OBJECTIVES'. Below the header is a large, light gray rectangular box with rounded corners, intended for listing learning objectives. The background of the slide has a faint, stylized architectural pattern on the right side. At the bottom, there is a small footer containing the text 'Content Copyright Nanyang Technological University' and the number '4'.

After this lesson, you should be able to:

LEARNING OBJECTIVES

After this lesson, you should be able to:

- Explain how nested if statement works with example.

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- Explain how nested if statement works with example



The nested-**if** statement

NESTED IF STATEMENT

- The nested-if statement allows us to perform a multi-way selection.

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The nested-**if** statement allows us to perform a multi-way selection.

NESTED IF STATEMENT

- The nested-if statement allows us to perform a multi-way selection.
- In a nested-if statement, both the if branch and the else branch may contain one or more if statements.

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In a nested-**if** statement, both the **if** branch and the **else** branch may contain one or more **if** statements.

NESTED IF STATEMENT

- The nested-if statement allows us to perform a multi-way selection.
- In a nested-if statement, both the if branch and the else branch may contain one or more if statements.
- The level of nested-if statements can be as many as the limit the compiler allows.

The level of nested-**if** statements can be as many as the limit the compiler allows.

NESTED IF STATEMENT: EXAMPLE

```
if (expression1) {  
    if (expression2)  
        statement1;  
}  
else  
    statement2;
```

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C compiler associates an **else** part with the nearest unresolved **if**, i.e. the **if** statement that does not have an **else** statement. We can also use braces to enclose statements:

NESTED IF STATEMENT: EXAMPLE

```
if (expression1) {  
    if (expression2)  
        statement1;  
}  
else  
    statement2;
```

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We can also use braces to enclose statements:

NESTED IF: EXAMPLE

```
/* This program determines the maximum
value of three numbers */
#include <stdio.h>
int main()
{
    int  n1, n2, n3, max;
    printf("Please enter three integers:");
    scanf("%d %d %d", &n1, &n2, &n3);

    /* write nested-if code here */

    printf("The maximum is %d\n",max);
    return 0;
}
```

Output
Please enter three integers:
1 2 3
The maximum of the three
is 3

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Nested-if: Example

In the example program, the purpose is to determine the maximum value of three input numbers.

NESTED IF: EXAMPLE

```
#include <stdio.h>
int main()
{
    int n1, n2, n3, max;
    printf("Please enter three integers:");
    scanf("%d %d %d", &n1, &n2, &n3);

    if (n1 >= n2)
    {
        if (n1 >= n3)
            max = n1;
        else max = n3;
    }
    else if (n2 >= n3)
        max = n2;
    else max = n3;
    printf("The maximum is %d\n", max);
    return 0;
}
```

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This program reads in three integers from the user and stores the values in the variables **n1**, **n2** and **n3**.

SUMMARY

After this lesson, you should be able to:

- Explain how nested if statement works with example.

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In summary, after viewing this video lesson, you should be able to explain nested if statement with examples