Chapter 3: Control of flow

Control of flow refers to the process of managing the movement of materials or information through a system, in order to regulate the speed, timing, and quantity of their movement. Effective flow control is essential for maintaining efficient and reliable operations, preventing bottlenecks and delays, and ensuring that resources are used effectively.

One way if statement: a one-way if statement is used to execute a block of code if a condition is true. This is the simplest form of a selection statement. The basic syntax of a one-way if statement is:

if (condition) {

// code to execute if condition is true

}

Here, condition is an expression that evaluates to either true or false. If the condition is true, then the code inside the curly braces will be executed. If the condition is false, then the code inside the curly braces will be skipped.

Two way if else statement: a two-way if-else statement is used to execute one block of code if a condition is true and another block of code if the condition is false. The basic syntax of a two-way if-else statement is:

if (condition) {

// code to execute if condition is true

} else {

// code to execute if condition is false

}

Multi way if else statement: a multi-way if-else statement is used to execute one of several blocks of code, depending on the value of a variable. The basic syntax of a multi-way if-else statement is:

if (condition1) {

// code to execute if condition1 is true

} else if (condition2) {

// code to execute if condition1 is false and condition2 is true

} else if (condition3) {

// code to execute if condition1 and condition2 are false and condition3 is true

} else {

// code to execute if all conditions are false

}

condition1, condition2, and condition3 are expressions that evaluate to either true or false. The first if statement checks if condition1 is true. If it is true, then the code inside the first set of curly braces is executed, and the rest of the else if and else blocks are skipped. If condition1 is false, then the second if statement checks if condition2 is true. If it is true, then the code inside the second set of curly braces is executed, and the rest of the else if and else blocks are skipped. If condition2 is false, then the third if statement checks if condition3 is true. If it is true, then the code inside the third set of curly braces is executed, and the rest of the else if and else blocks are skipped. If all conditions are false, then the code inside the final set of curly braces is executed.

nested if statement: if statement checks if condition3 is true. If it is true, then the code inside the third set of curly braces is executed, and the rest of the else if and else blocks are skipped. If all conditions are false, then the code inside the final set of curly braces is executed.

if (condition1) {

// code to execute if condition1 is true

if (condition2) {

// code to execute if both condition1 and condition2 are true

}

}

condition1 and condition2 are expressions that evaluate to either true or false. The first if statement checks if condition1 is true. If it is true, then the code inside the first set of curly braces is executed. Inside this block, there is another if statement that checks if condition2 is true. If it is true, then the code inside the second set of curly braces is executed.