Conditional statements in C# are used to make decisions in your code based on certain conditions or expressions. These statements allow you to control the flow of your program by executing different blocks of code depending on whether a condition is true or false.

If statement

If statement is a control structure used to execute a block of code conditionally. It allows you to specify a condition, and if that condition evaluates to true, the code block within the “if” statement is executed.

Example: int number = 10;

if (number > 5)

{

Console.WriteLine("Number is greater than 5");

}

This will print Number is greater than 5.

Else Statement

An else statement is combined with the if statement. In the case that the condition following the if statement returns false, the code block following the else statement will run.

Example:

int age = 13

if (age >= 18)

{

Console.WriteLine("You are an adult.");

}

else

{

Console.WriteLine("You are a minor.");

}

This will print You are a minor.

Else if statement

an "if-else-if" statement is a control structure that allows you to execute different blocks of code based on multiple conditions. It provides a way to test multiple conditions sequentially and perform different actions depending on the outcome of each condition.

Example: int score = 75;

if (score >= 90)

{

Console.WriteLine("Grade: A");

}

else if (score >= 80)

{

Console.WriteLine("Grade: B");

}

else if (score >= 70)

{

Console.WriteLine("Grade: C");

}

else

{

Console.WriteLine("Grade: F");

}

The first true condition’s block will run, and the rest will be skipped.In this example it will print Grade: C.

Switch Statements

Switch(expression){

Case value1:

//statement executed if expression = value1

Break;

Case value2:

//statement executed if expression = value2

Break;

Default:

//statement executed if no case matches

}

The switch statement evaluates the expression (or variable) and compare its value with the values (or expression) of each case (value1, value2, …). When it finds the matching value, the statements inside that case are executed.

But, if none of the above cases matches the expression, the statements inside default block is executed. The default statement at the end of switch is similar to the else block in if else statement.

In switch statement , when the matching value is found, it executes all statements after it until the end of switch block.

To avoid this, we use break statement at the end of each case. The break statement stops the program from executing non-matching statements by terminating the execution of switch statement.

Example:

int day = 3;

switch (day)

{

case 1:

Console.WriteLine("Monday");

break;

case 2:

Console.WriteLine("Tuesday");

break;

case 3:

Console.WriteLine("Wednesday");

break;

default:

Console.WriteLine("Other day");

break;

}

This code will print Wednesday. The statement in case3.

Loop Statements

Loops are used to repeat one or more statements until a condition is met.

For loop

for loop is used to iterate a part of the program several times. If the number of iteration is fixed, it is recommended to use for loop. The loop variable initialization, condition to be tested, and increment/decrement of the loop variable are all done in one line.

Example:

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

{

Console.WriteLine("i = " + i);

}

This will display: i = 0

i = 1

i = 2

i = 3

i = 4

The int i = 0 is the starting point, i < 5 is the condition to keep looping, i++ is increment.

While loop

while loop is used to iterate a part of the program several times. If the number of iteration is not fixed, it is recommended to use while loop.