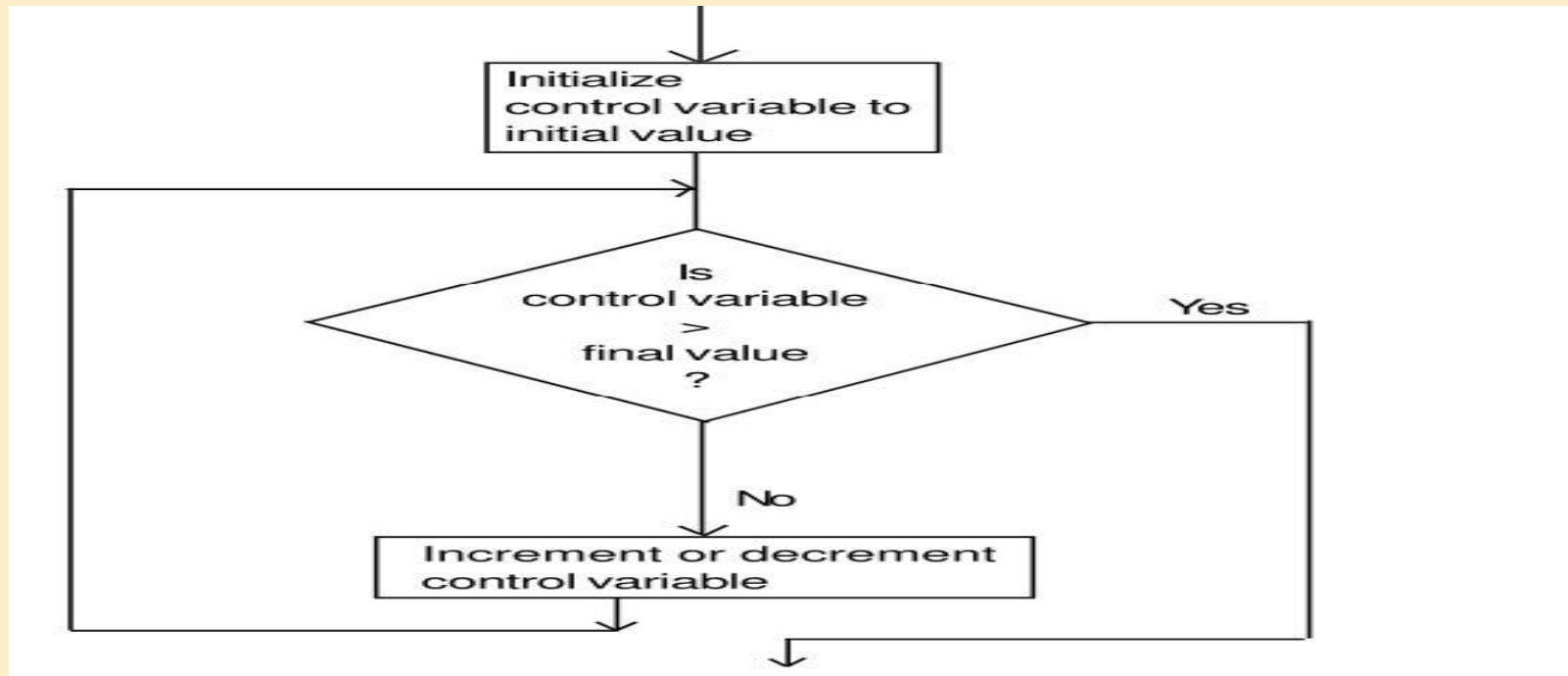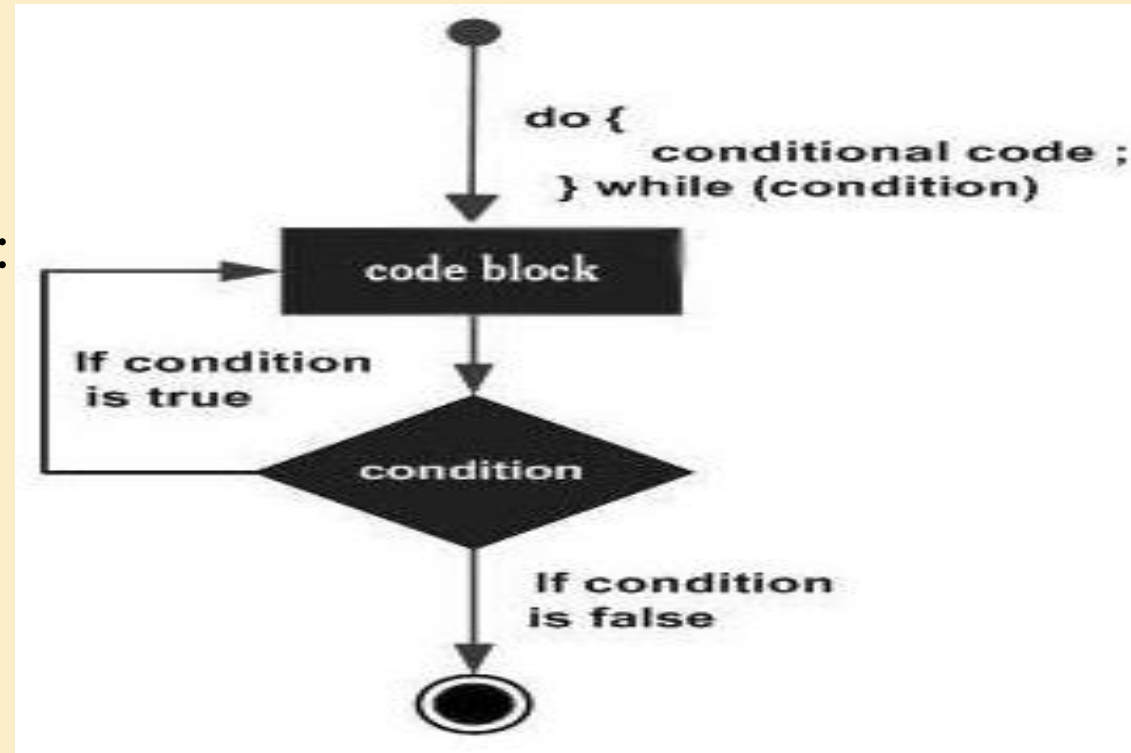# Loop Statements

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Do While statements

A **do...while** loop is similar to a while loop, except that a do...while loop is guaranteed to execute at least one time.

Syntax:
The syntax of a do...while loop in C++ is:

do نفذ
{
  statement(s); تعليمات
}while(condition);

While (condition) نفذ التعليمات طالما الشرط متحقق

  {

    statement(s);

  }

Examples

```cpp
# include <iostream>
using namespace std;
int main()
{
  // Local variable declaration:
  int a = 10;

  // do loop execution
  do
   {
    cout << "value of a: " << a << endl;
    a = a + 1;
   } while (a < 16);

  return 0;
}
```

1) Write a C++ program to enter two numbers and compute the summation of these numbers.

  * Entry process continues when the user enters the char "Y/ y" . yes
  * Using Do while Statement

```cpp
# include <iostream>
using namespace std;
int main()
{
    int num1, num2;
    char again;
    do {
        cout << "Enter a number: ";
        cin >> num1;
        cout << "Enter another number: ";
        cin >> num2;
        cout << "Their sum is " << (num1 + num2) << endl;
        cout << "Do you want to do this again? ";
        cin >> again;
    } while (again == 'y' || again == 'Y');

    return 0;
}
```

2) Write a program that reads three nonzero integers and determines and prints if they could be the sides of a right triangle.

Ex: a = 3, b= 4, c= 5

$$c^2 = a^2 + b^2$$

```cpp
# include <iostream>
using namespace std;
int main()
{
    int a, b, c;
    do
    {
        cout << " Enter three integers  ";
        cin >> a >> b >> c;
    } while (a <= 0 || b <= 0 || c <= 0);
    if (c * c == a * a + b * b)
        cout << "It's a right triangle" << endl;
    else
        cout << "It's not a right triangle" << endl;
    return 0;
}
```