

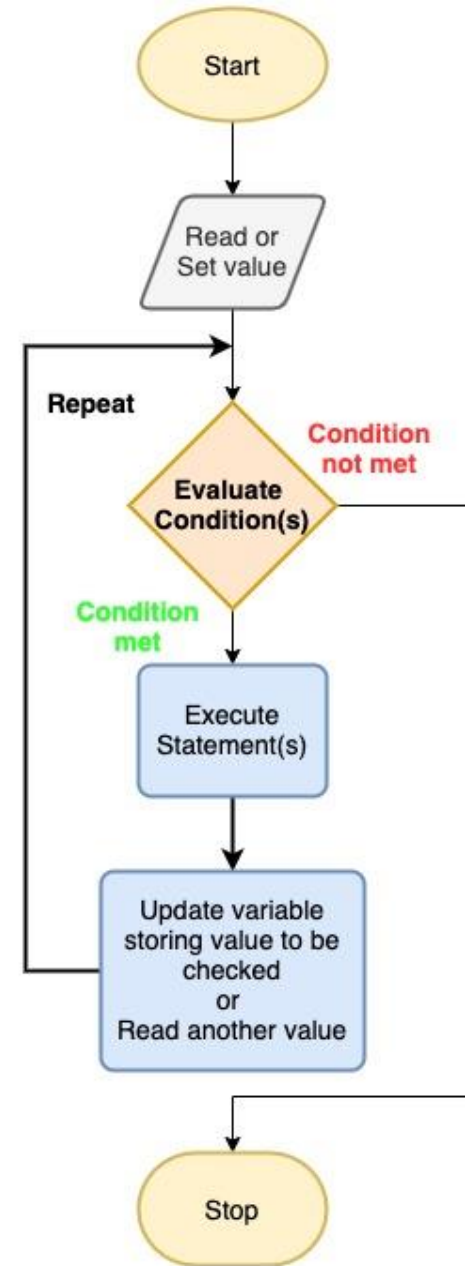
Iterative Structures

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Iterative Structures

Allows us to *repeat a sequence of code* multiple times



Cases



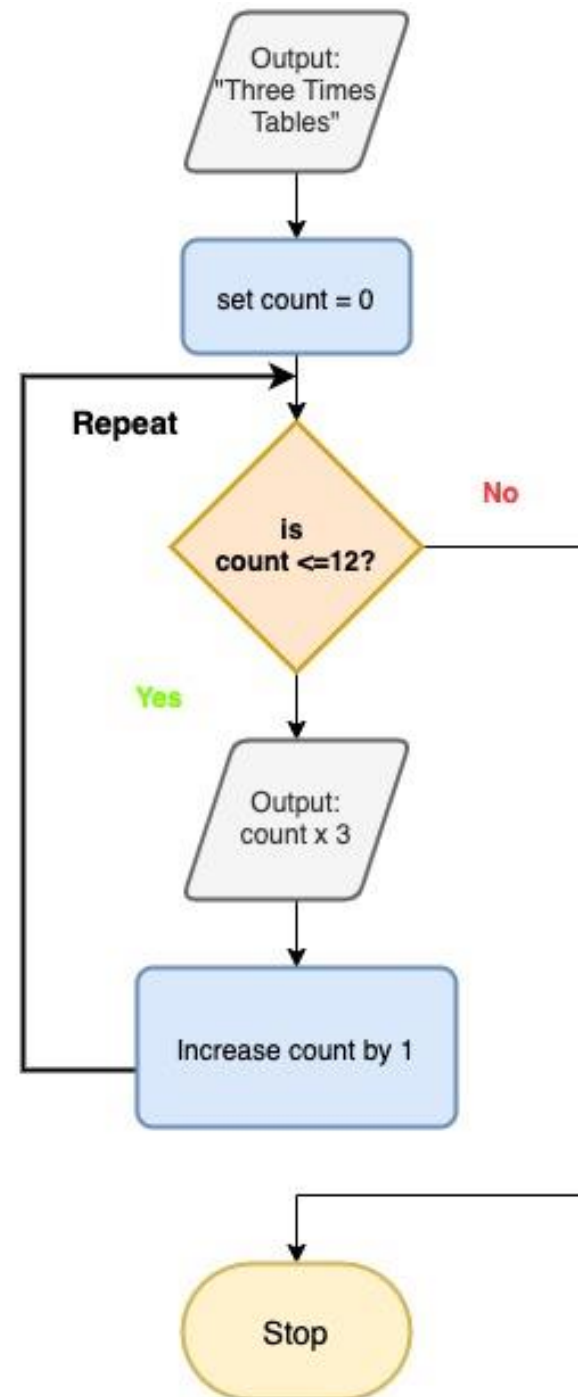
1. Three Times Tables program
2. Averaging a Sum of Numbers program
3. Guess the Number program

Case 1

Three times Tables Program

Case 1

Three Times Table



For Loop

```
for (initialization ; condition ; increment) {  
    statement1;  
    statement2;  
}
```

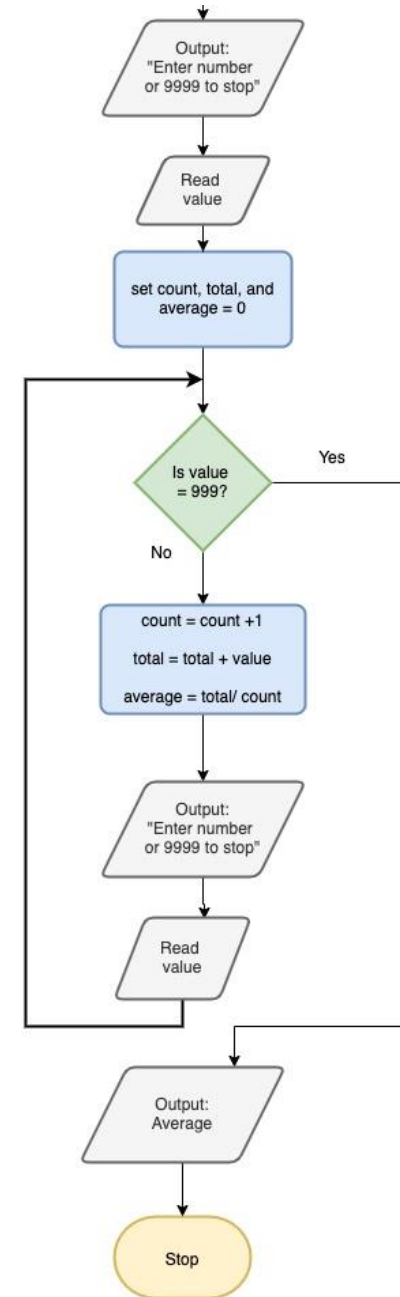
```
// 3 Times Tables program  
#include <iostream>  
  
using std::cin;  
using std::cout;  
using std::endl;  
  
int main(){  
    cout << "\t Three Times Tables" << endl;  
    cout << "\t -----" << endl;  
    for (int count =0; count<=12; count++ ){  
        cout << "\t 3 x " << count << " = " << 3 * count << endl;  
    }  
  
    return 0;  
}
```

Case 2

Averaging a Sum of Numbers Program

Case 2

Averaging Program



While Loop

```
while (condition){  
    statement1;  
    statement2;  
}
```

//Assuming all header files and using std::cout declared etc.

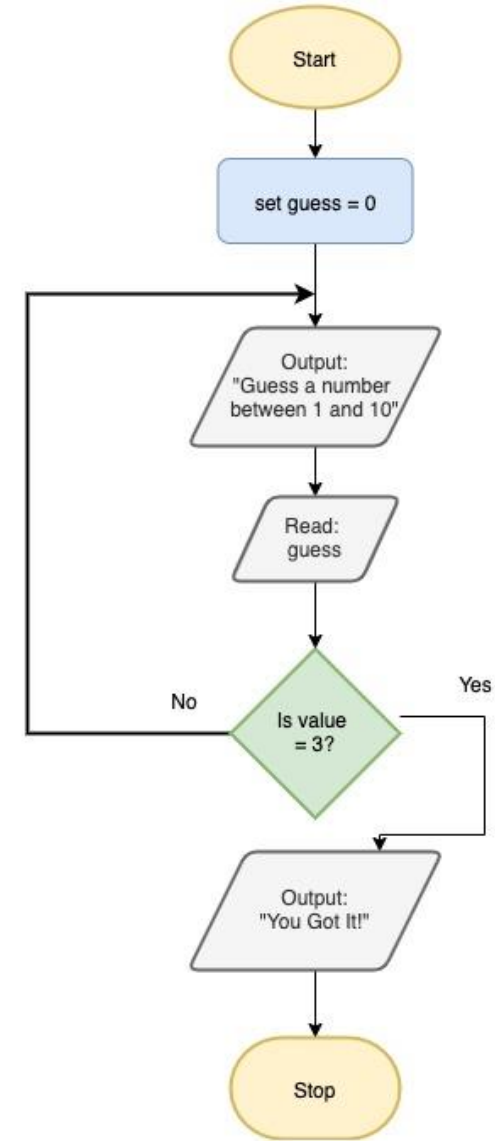
```
int count =0;  
int value = 0;  
int total = 0;  
float average = 0.0;  
  
cout << "Enter any value or 9999 to STOP:"<<endl;  
cin >> value;  
  
while (value != 9999){  
    count++;  
    total += value;  
    cout << "Enter any value or 9999 to STOP:"<< endl;  
    cin >> value;  
}  
  
average = (float)total/count;  
  
if (count > 0){  
    cout << "Average of the " << count << " values = " << average << endl;  
}
```

Case 3

Guess The Number Program

Case 3

Guessing a number between 1 and 10



Do... while Loop

```
do{  
    statement1;  
    statement2;  
}while (condition);
```

```
// Guess the Number program  
#include <iostream>
```

```
using std::cin;  
using std::cout;  
using std::endl;
```

```
int main(){  
    int guess = 0;  
    do{  
        cout << "Enter a value between 1 and 10" << endl;  
        cin >> guess;  
    }while(guess!=3);  
    cout << "You Guessed IT!" << endl;  
    return 0;  
}
```

That's All