Iterative control instruction or Loop

Iterative control instruction is also known as repetitive control instruction or loop.  
Sometimes it is desirable to executed same statement again and again. This can be done with the help of loops

There are three ways to implement loops in C language:

* While loop
* do while loop
* for loop

While (entry control loop) do while(exit control loop) for while(entry control loop)

Main() main() main()

{ { {

Int i=1; int i=1; int i=1;

While(I<=5) do for(i=1; i<=5; i++)

{ { {

Printf(“hello”); printf(“hello”) printf(“hello”)

I++; i++ }

} } getchar();

getchar(); while(i<=5); }

} getchar();

}

|  |  |  |
| --- | --- | --- |
| * In this program 6 times Check condition b/c we are enter 5 times In while loop when given condition is true and one times When condition is false. * Condition check start with 1. * First check condition whatever written inside the while loop then print then increase | * In this program 5 times Check condition b/c we are enter 4 times In while loop when given   condition is true and one times When condition is false.   * Condition check start with 2. * First print then increase then check condition whatever written inside the while loop | * In this program 6 times Check condition b/c we are enter 5 times In while loop when given condition is true and one times When condition is false. * Condition check start with 1 * First check condition whatever written inside the for loop then print then increase |

Example-:

#include<stdio.h>

void main()

{

    int i=1,n;

    printf("Enter number how many times you to print massage");

    scanf("%d",&n);

*/\* let we know how for loop works.*

*step1- first assign the vale in i then check loop condition.*

*step2- If condition is true then print function execute.*

*step3- After executing print function then execute increment and increase the value*

*of 1*

*step4- After increase the value of 1 then again assign the value in i and check*

*condition.*

*step5- These step execute again and again till the condition is true\*/*

    for(i=1; i<n; i++)

    printf("\n Chack loop expression whow to work");

}

* Break :-
* The keyword break can be used in loop body or in switch body.
* The purpose of break is to terminate in the middle normal execution of loops.

Example-

* Print hello world ‘n’ times. Take ‘n’ as input from user?
* Print all the even numbers from 1 to 100 ?
* Print all the odd numbers from 1 to 100 ?
* Print the table of ‘n’. Here ‘n’ is a integer which user will input.?
* Display this AP - 1,3,5,7,9.. up to ‘n’ terms.?

(a=1 first term of AP. d=2 Common difference of AP find nth term of

AP= a+(n-1)\*d

* Display this AP - 4,7,10,13,16.. up to ‘n’ terms.?
* Display this GP - 1,2,4,8,16,32,.. up to ‘n’ terms.
* WAP to check if a number is prime or not.
* : WAP to print odd numbers from 1 to 100.
* WAP to count digits of a given number.
* WAP to print sum of digits of a given number.
* WAP to print sum of all the Even digits of a given number.
* WAP to print sum of all the Odd digits of a given number.
* WAP to print reverse of a given number.
* WAP to print the sum of given number and its reverse.
* : Print the sum of this series : 1+ 2 + 3 + 4 + 5 + 6… up to ‘n’.
* : Print the sum of this series : 1 - 2 + 3 - 4 + 5 - 6… up to ‘n’.
* Print the factorial of a given number ‘n’.