While loop

* Program to print sum of digits in a value:

Int n,sum=0,rem;

Scanf(“%d”,&n);

While<n>0){

Rem=n%10;

Sum+=rem;

N=n/10;

}

Printf(“%d”,sum);

}

->program to find factorial of a number

Int n,fact=1;

Scanf(“%d”,&n);

While(n>=1){

Fact=fact\*n;

n--;

}

* The factorial of values will increases rapidly so we should use long inplace of int.
* Format specifier of long int:”%ld”
* Program to reverse a value

Int n,rev,rem;

Scanf(“%d”,&n);

While(n>o){

Rem=n%10;

Rev=(rev\*10)+rem;

N=n/10;

}

Printf(“%d”,rev);

}

* Program to check the number is palindrome

Int n,rem,rev;

Scanf(“%d”,&n);

While(n>0){

Rem=n%10;

Rev=(rev\*10)+rem;

N=n/10;

}

If(rev==n){

Printf(“palindrome”);

}

Else{

Printf(“ not palindrome”);

}

}

* **Do-while loop**

Syntax:

Do{

-

-

-

}while;

* In do while the loop body is executed first
* Check the condition
* The loop body is executed atleast once even if the condition is false
* Program to print numbers from 1 to 5

Int i=1;

Do{

Printf(“%d”,i);

I=i+1;

}while(i<=5);

* Program to count numbers of digits in a value

Int n=3962,count=0;

While(n>0){

Cout++;

N=n/10;

}

Printf(“%d”,count);

* While loop logic works for any +ve value,but while loop logic will not work for value of “0”.

Int n=3961;

Int count=0;

Do{

Count++;

N=n/10;

}while(n<0);

* The do while implementation will work for any +ve values and zero “0”.
* Put char is a library function.

Application

Library function

System calls

* Program

Int i=0;

Char ch=’A’;

Do{

Putchar(ch);

Printf(“%d”,i);

}while((i++<5)||(++ch=”p”));

**For loops**

* Syntax

For(initialization;condition;update value){

}

* Program to print numbers from 1 to 4

Int I;

For(i=0;i<5;i++){

Printf(“%d”,i);

}

* Program to print 10,8,6,4,2

Int a,b,i,res=0;

Scanf(“%d %d”,&a, &b);

For(int i=0;i<b;i++)(

Res=res+a;

}

Printf(“%d”,res);}

* We can stop the statements inside initialization part.
* We can keep the initialization part empty.
* Skipping statements in initialization will not generate any compilation error.
* Arithmetic operators can be combined with assignment operators.
* Program to find sum of digits of a number

Int n,sum=0,rem;

Scanf(“%d”,&n);

For( ;i<n;i++){

Rem=n%10;

Sum=sum+rem;

}

Printf(“%d”,sum;

}

* Skipping the statements in conditional part are considered ad true
* Program for infinite loop

Int I;

For{i=0; ;i++){

Printf(“%d”,i);

}

* Can you skip statements inside the update expression
* Program to skip update part

Int I;

For(i=0;i<5; ){

Printf(“%d”,i);

}