

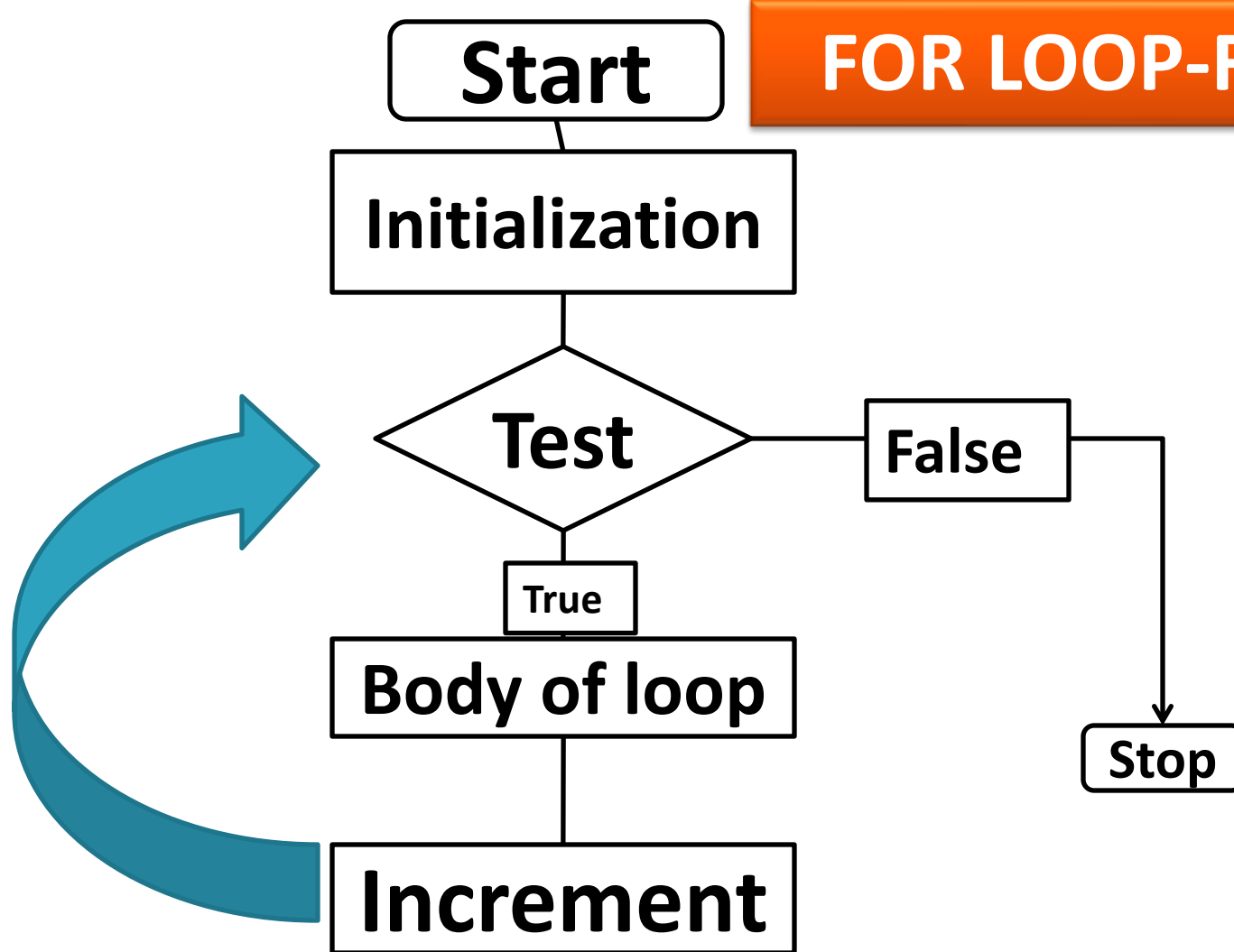
004- Flow control with LOOPS



For Loop



FOR LOOP-FLOWCHART



For Loop

- **Syntax**
- **For (i=1; i<10; i=i++)**
 {
 body of the loop goes here
 }

The parentheses contain three expressions

Initialization	(i=1)
Condition	(i<10)
Increment	(i=i++)



Print 1 to 10 Numbers Using For Loop

```
void main()
{
    int a;
    clrscr();
    for(a=1;a<=10;a++)
    {
        printf(" %d \n",a);
    }
    getch();
}
```



Print your name Using For Loop

```
void main()
{
    int a;
    clrscr();
    for(a=1;a<=10;a++)
    {
        printf(" My Name is _____ \n");
    }
    getch();
}
```



Virus Using For Loop

```
void main()
{
long a;
clrscr();
for(a=1;a>=1;a++)
{
printf(" Your Computer is Hacked \t");
}
getch();
}
```



Print Table Of Given Number Using For Loop

```
void main()
{
    int a,b,c;
    clrscr();
    printf("Enter a Number : \n");
    scanf("%d",&a);
    printf("Table of %d is :\n",a);

    for(b=1;b<=10;b++)
    {
        c=a*b;
        printf(" %d x %d = %d \n",a,b,c);
    }
    getch();
}
```



Find the Sum of First 5 Positive Integers

```
main()
{
int i, sum=0;
printf("Sum of first 5 positive numbers are as\n");
for(i=0; i<=5; i++)
sum = sum + i;
printf("Sum = %d", sum);
}
```



Find the product of First 5 Positive Integers

```
main()
{
int i, b=1;
printf("Product of first 5 positive numbers are as\n");
for(i=1; i<=5; i++)
b = b * i;
printf("Product = %d", b);
}
```



Program to Find Factorial

```
main()
{
int n, i;
long fact=1;
printf("\n Enter a Number: ");
scanf("%d", &n);
for (i=1; i<=n; i++)
fact = fact*i;
printf("\nFactorial = %ld", fact);
}
```



Nested for loop

Outer_loop

{

Inner_loop

{

// inner loop statements.

}

// outer loop statements.

}



Nested for Loop

```
for(initialization; condition; update)
{
    for(initialization; condition; update)
    {
        // inner loop statements.
    }
    // outer loop statements.
}
```



Nested for loop - Example

```
void main()
```

```
{
```

```
int a,b;
```

```
for (a=1;a<=10;a++)
```

```
{
```

```
    for (b=1;b<=5;b++)
```

```
    {
```

```
        printf("%d\t",(a*b));
```

```
    }
```

```
printf("\n");
```

```
}
```

```
}
```



```
void main()
{
int a,b,c;
clrscr();
printf("enter the value of b:");
scanf("%d",&b);
```

```
for(a=1;a<=10;a++)
{
    for(c=1;c<=b;c++)
    {
        printf("%d\t",(a*c));
    }
    printf("\n");
} }
```



While Loop



While loop

- Syntax

initialization

While (condition)

{

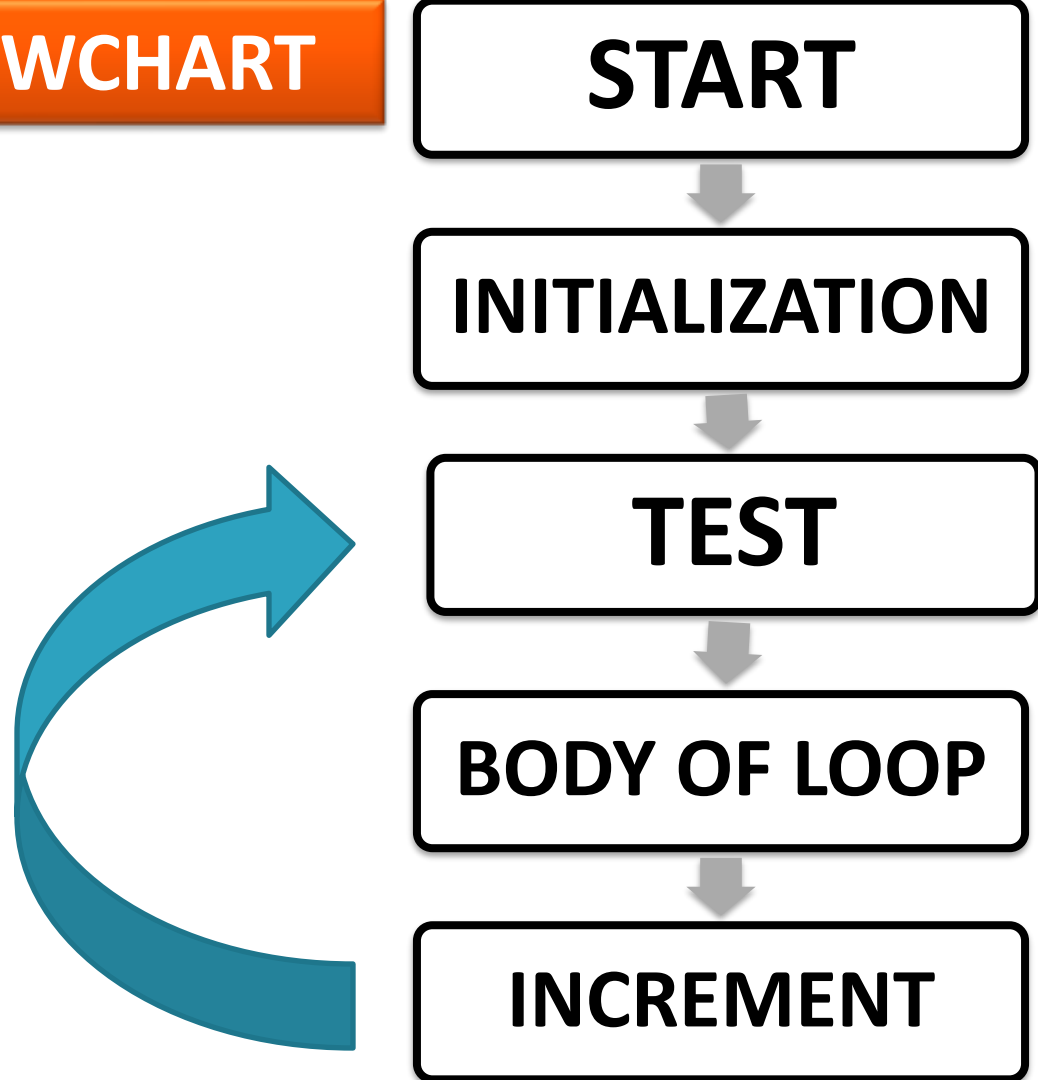
do This...

}

increment



WHILE LOOP-FLOWCHART



PRINTING TABLE

```
void main()
{
    int a, b = 1;
    clrscr();
    printf("\n Enter any Number:");
    scanf("%d", &a);
    printf("Multiplication table of %d: \n", a);
    while (b <= 10)
    {
        printf("\n %d x %d = %d", a,b, a * b);
        b++;    } }
```

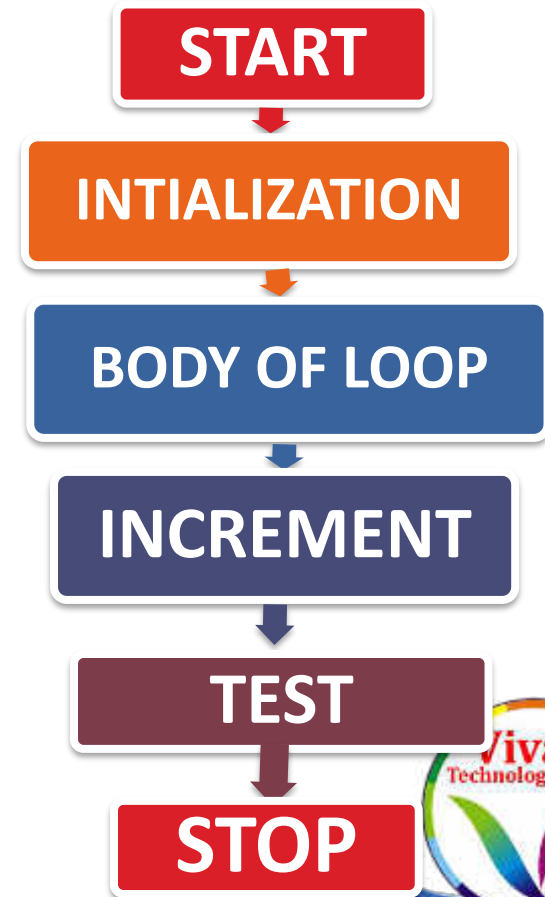


Do While Loop



Do While loop

- Do while loop: is similar to while except that the continuation condition is tested at the end of the loop rather than at the beginning.
- It follows that the body of the loop is certain to be **executed at least once**:



Do While loop

Syntax:

```
Do
{
    this ;
    this ;
    and this;
}
```

```
while (condition);
    i++;
```



PROGRAM - Do While loop

```
main()
{
int i = 11;
do
{
printf("Hello %d\n", i );
i = i ++;
}
while ( i <= 10 );
}
```



Thank You!

