



# Loops Control Structure (*Odd Loop*)

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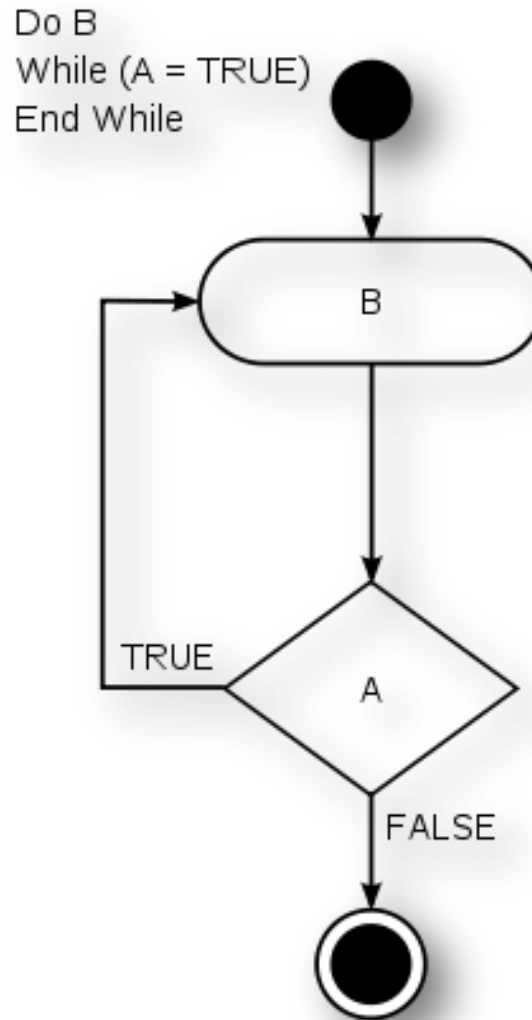
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- In real life programming one comes across a situation when it is not known beforehand how many times the statements in the loop are to be executed.
  - This is done through do-while loop.

# Do-While Loop Flow Chart



# Program

```
/* Execution of a loop an unknown number of times */  
main( )  
{  
    char another ;  
    int num ;  
    do  
    {  
        printf ( "Enter a number " ) ;  
        scanf ( "%d", &num ) ;  
        printf ( "square of %d is %d", num, num * num ) ;  
        printf ( "\nWant to enter another number y/n " ) ;  
        scanf ( " %c", &another ) ;  
    } while ( another == 'y' ) ;  
}
```

```
Enter a number 5  
square of 5 is 25  
Want to enter another number y/n y  
Enter a number 7  
square of 7 is 49  
Want to enter another number y/n n
```

# Same functional with for loop

```
/* odd loop using a for loop */
main( )
{
    char another = 'y' ;
    int num ;
    for ( ; another == 'y' ; )
    {
        printf ( "Enter a number " ) ;
        scanf ( "%d", &num ) ;
        printf ( "square of %d is %d", num, num * num ) ;
        printf ( "\nWant to enter another number y/n " ) ;
        scanf ( " %c", &another ) ;
    }
}
```

# Same functional with while loop

```
/* odd loop using a while loop */
main( )
{
    char another = 'y' ;
    int num ;

    while ( another == 'y' )
    {
        printf ( "Enter a number " ) ;
        scanf ( "%d", &num ) ;
        printf ( "square of %d is %d", num, num * num ) ;
        printf ( "\nWant to enter another number y/n " ) ;
        scanf ( " %c", &another ) ;
    }
}
```

- Write a program using do while loop to find the factorial of a given number???



# Solution

```
//factorial using do while loop
#include<stdio.h>
#include<conio.h>
main()
{
    int number;
    printf("Enter number");
    scanf("%d", &number);
    int factorial=1;
    do
    {
        factorial*=number--;
    }
    while (number>0);
    printf("the factorial is %d", factorial);
    getch();
}
```



