

Loops – while, do..while, for , Jump Statements

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C Programming

Trainer : Smita Kadam

Email ID : [smita@sunbeaminfo.com](mailto:smita@sunbeaminfo.com)



# Loops - Iteration

- Helps to give execution control repeatedly to a specific block

## 1. On Entry Check Loop

1. While
2. For

## 2. On Exit Check Loop

1. do...while

- **Please note in all loops available in C language execution control will enter inside loop block only when given entry/exit given expression will result true.**
- While writing loop program should focus on
  - Initial state
  - Expression Check
  - Modification Statement – is a statement which helps to result expression to false state
  - Absence of modification statement will result into infinite loop



## On Entry Check - while

```
while (<expression>) // on entry check
{
    <statements>
    .....
} // calls block repeatedly
```



## On Entry Check - for

```
for (<initial statement>;<expression>;<modification statement>)  
{  
    <statements>  
    .....  
} //calls block repeatedly
```



## On Exit Check – do....while

```
do
{
    <statements>
    .....
}while(<expression>);//calls block repeatedly
```



# On Entry Check Vs On Exit Check

## On Entry Check

```
int n = 5;  
While(n<=3)  
{  
    printf("%d",n);  
}
```

Execution control will never entered inside loop as initial state is not related to on entry expression check.

## On Exit Check

```
int n = 5;  
do  
{  
    printf("%d",n);  
}while(n<=3);
```

At least one execution is fixed no matter what is initial state of expression.



## Jump Statements – break, continue, return, goto

### **break**

Can be used inside switch/loop.

Helps to move execution control forcefully outside switch/loop

### **continue**

Can be used only inside loop.

Helps to move execution control forcefully to next iteration.

Skips the execution of statements below continue.

### **return**

Can be used inside function.

Helps to move execution control forcefully back to calling function.

### **goto**

<label>:

<statements>

goto <label> ;

Helps to move execution control forcefully to a specific label definition.





Thank you!

