



DO..WHILE LOOP

LECTURER: NADIA BINTE ASIF



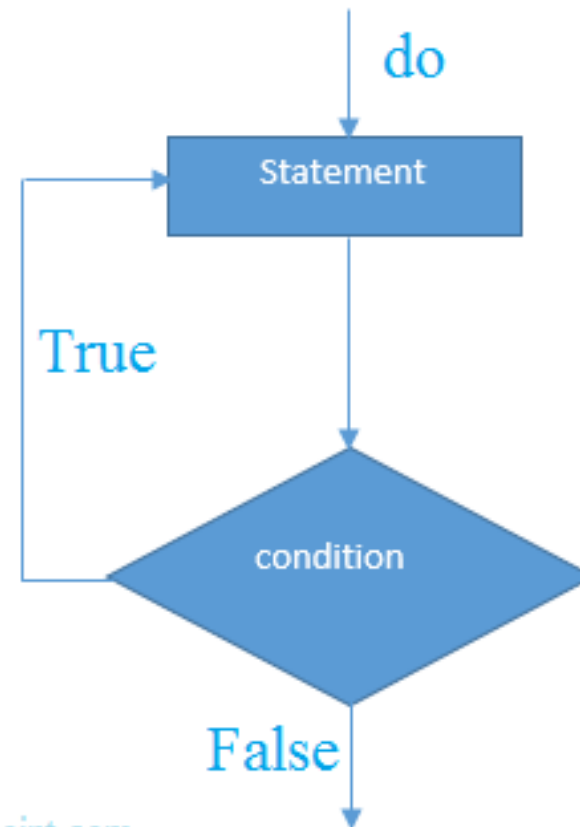
SYNTAX

```
1.do{  
2.//code to be executed  
3.}while(condition);
```

- Post tested loop
- Cases where we need to execute the loop at least once
- Used in menu-driven programs → termination → users
- Initialization inside loop
- non-zero value as the conditional expression.

SYNTAX

```
1.do{  
2.//code to be executed  
3.}while(condition);
```



EXAMPLE

```
1.#include<stdio.h>
2.int main(){
3.int i=1;
4.do{
5.printf("%d \n",i);
6.i++;
7.}while(i<=10);
8.return 0;
9.}
```

FOR LOOP?

PROBLEMS

1. Write a Program to print table for the given number using do while loop.

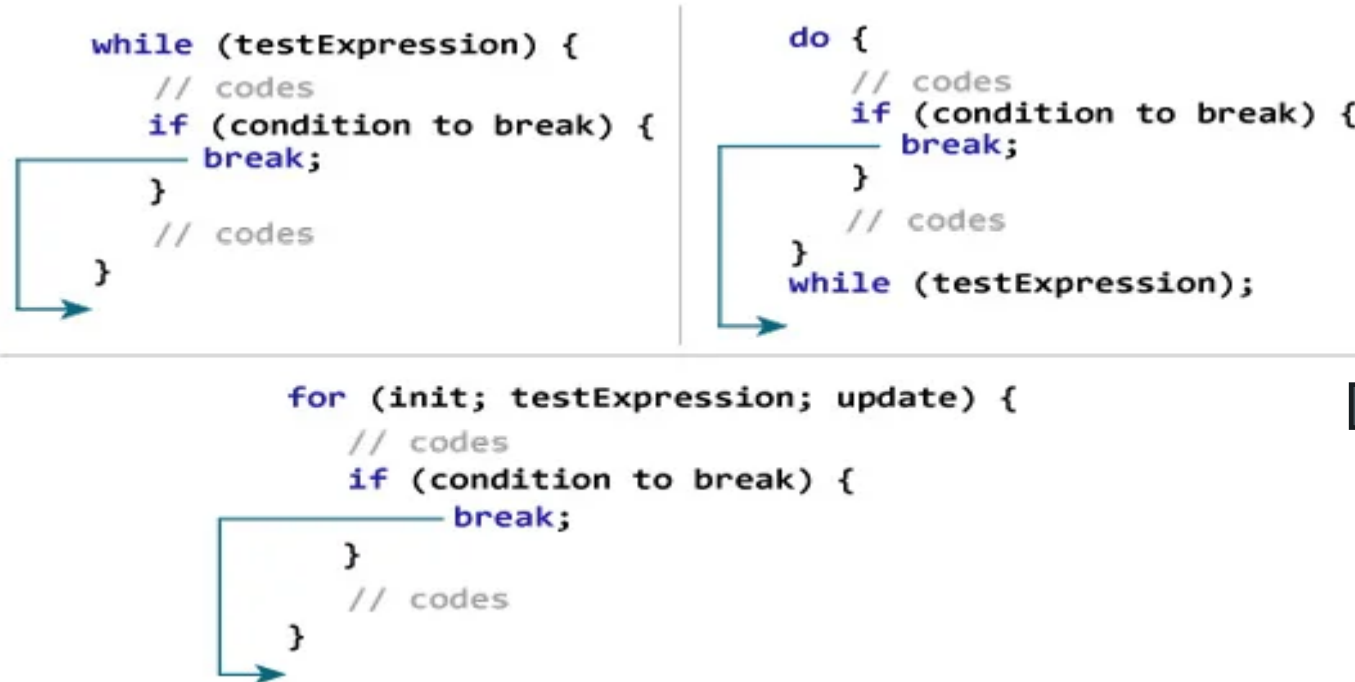


BREAK AND CONTINUE STATEMENTS



BREAK

```
while (testExpression) {  
    // codes  
    if (condition to break) {  
        break;  
    }  
    // codes  
}  
  
do {  
    // codes  
    if (condition to break) {  
        break;  
    }  
    // codes  
} while (testExpression);  
  
for (init; testExpression; update) {  
    // codes  
    if (condition to break) {  
        break;  
    }  
    // codes  
}
```



***Ends the loop
immediately when it
is encountered***

EXAMPLE

```
1.  int i;
2.  for(i = 0; i<10; i++)
3.  {
4.      printf("%d ",i);
5.      if(i == 5)
6.          break;
7.  }
8.  printf("came outside of loop i = %d",i);
9.
10. }
```

```
#include<stdio.h>
int main(){
int i=1,j=1
for(i=1;i<=3;i++){
    for(j=1;j<=3;j++){
        printf("%d %d\n",i,j);
        if(i==2 && j==2){
            break;
        }
    }
}
return 0;
}
```


Program to calculate the sum of numbers (10 numbers max) [If the user enters a negative number, the loop terminates]

```
#include <stdio.h>
int main() {
    int i;
    double number, sum = 0.0;

    for (i = 1; i <= 10; ++i) {
        printf("Enter n%d: ", i);
        scanf("%lf", &number);

        // if the user enters a negative number, break the
loop
        if (number < 0.0) {
            break;
        }
    }
```

```
sum += number; // sum = sum + number;
}

printf("Sum = %.2lf", sum);

return 0;
}
```

```
int n=2,i,choice;
do
{
    i=1;
    while(i<=10)
    {
        printf("%d X %d = %d\n",n,i,n*i);
        i++;
    }
    printf("do you want to continue with the table of %d , enter any non-zero value to continue.",n+1);
    scanf("%d",&choice);

    if(choice == 0)
    {
        break;
    }
    n++;
}while(1);
```

OUTPUT

$$2 \times 1 = 2$$

$$2 \times 2 = 4$$

$$2 \times 3 = 6$$

$$2 \times 4 = 8$$

$$2 \times 5 = 10$$

$$2 \times 6 = 12$$

$$2 \times 7 = 14$$

$$2 \times 8 = 16$$

$$2 \times 9 = 18$$

$$2 \times 10 = 20$$

do you want to continue with the table of 3 , enter any non-zero value to continue.1

$$3 \times 1 = 3$$

$$3 \times 2 = 6$$

$$3 \times 3 = 9$$

$$3 \times 4 = 12$$

$$3 \times 5 = 15$$

$$3 \times 6 = 18$$

$$3 \times 7 = 21$$

$$3 \times 8 = 24$$

$$3 \times 9 = 27$$

$$3 \times 10 = 30$$

do you want to continue with the table of 4 , enter any non-zero value to continue.0

CONTINUE

```
→ while (testExpression) {  
    // codes  
    if (testExpression) {  
        continue;  
    }  
    // codes  
}
```

```
do {  
    // codes  
    if (testExpression) {  
        continue;  
    }  
    // codes  
} → while (testExpression);
```

```
→ for (init; testExpression; update) {  
    // codes  
    if (testExpression) {  
        continue;  
    }  
    // codes  
}
```

- Skips the current iteration of the loop and continues with the next iteration

PROGRAM TO CALCULATE THE SUM OF NUMBERS (10 NUMBERS MAX) [IF THE USER ENTERS A NEGATIVE NUMBER, IT'S NOT ADDED TO THE RESULT]

```
#include <stdio.h>
int main() {
    int i;
    double number, sum = 0.0;

    for (i = 1; i <= 10; ++i) {
        printf("Enter n%d: ", i);
        scanf("%lf", &number);

        // if the user enters a negative number, break the
loop
        if (number < 0.0) {
            continue;
        }
    }
```

```
sum += number; // sum = sum + number;
}

printf("Sum = %.2lf", sum);

return 0;
}
```

```
#include<stdio.h>
void main ()
{
    int i = 0;
    while(i!=10)
    {
        printf("%d", i);
        continue;
        i++;
    }
}
```

OUTPUT

infinite loop

```
int i=1;
for(i=1;i<=10;i++){
    if(i==5){
        continue;
    }
    printf("%d ",i);
}
```

OUTPUT

1 2 3 4 6 7 8 9 10

```
#include<stdio.h>
int main(){
int i=1,j=1
for(i=1;i<=3;i++){
    for(j=1;j<=3;j++){
        printf("%d %d\n",i,j);
        if(i==2 && j==2){
            continue;
        }
    }
}
return 0;
}
```

OUTPUT

```
1 1
1 2
1 3
2 1
2 3
3 1
3 2
3 3
```