



# Fundamental Coding with C

Loops 3:for



# Loops 3:for

- for syntax in C:

```
for(initializationStatement; testExpression; updateStatement)
{
    // statements inside the body of loop
}
```

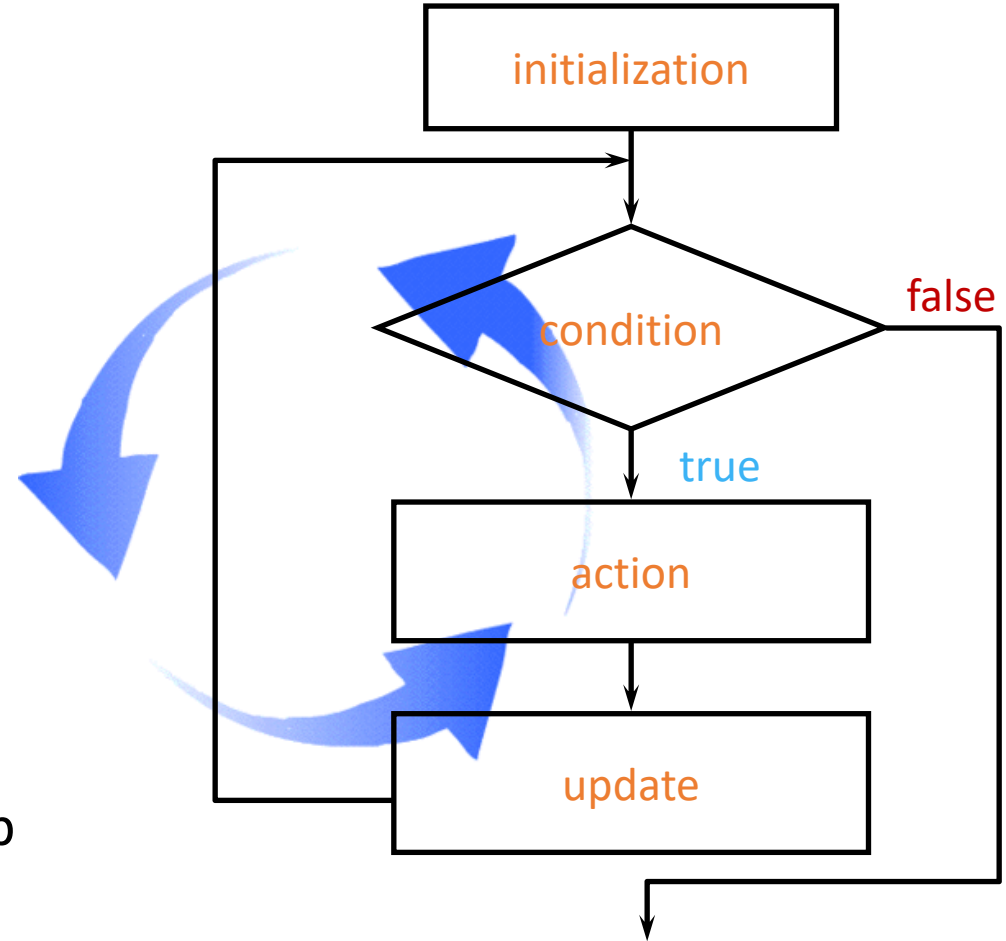
- After the body of the 'for' loop executes, the flow of control jumps back up to the initializationStatement step, and only once. This updateStatement statement. This statement allows you to update any loop control variables. This statement can be left blank, as long as a semicolon appears after the condition.
- Next, the testExpression is evaluated. If it is true, the body of the loop is executed. If it is false, the body of the loop does not execute and the flow of control jumps to the next statement just after the 'for' loop.
- The testExpression is now evaluated again. If it is true, the loop executes and the process repeats itself (body of loop, then updateStatement step, and then again condition). After the testExpression becomes false, the 'for' loop terminates.



# Loops 3:for

## for

- How it works:
  - Execute **initialization** control statement
  - While **condition** of control statement is **true**:
    - Execute **action**
    - **Update control statement**
    - When the **condition** of the control statement is **false**, it continues with the rest of the program.
- **action** is either a single statement or a group of statements.





# Loops 3:for

- Example for:

```
for (i = 1; i < 11; ++i)
{
    printf(«i = %d », i);
}
```

1º iteration:

```
i = 1;
1 < 11; true
i=1+1
```

2º iteration:

```
i = 2;
2 < 11; true
i=2+1
```

3º iteration:

```
i = 3;
3 < 11;
i=3+1
```

.....

10º iteration:

```
i = 10;
10 < 11; true
i=10+1
```

Last iteration:

```
i = 11;
11 < 11; false
```

Go out the "for". Not executes statements.



Fundamental  
Coding with C

It's time to try

<https://repl.it/languages/c>





## Fundamental Coding with C

```
#include <stdio.h>
int main() {
int i;
for (i = 1; i < 11; ++i)
{
printf("i = %d, \n", i);
}
return 0;
}
```



## Fundamental Coding with C

```
#include <stdio.h>
int main()
{
    int i;
    int mult =3;

    printf("Multiplication table of %d \n", mult);

    for (i = 1; i < 11; ++i)
    {
        printf(" %d x %d = %d \n", mult, i, mult*i);
    }
    return 0;
}
```