

5.6 The for loop

- The for statement is used to easily implement a count-controlled loop.

```
for (expr1; expr2; expr3)  
    statement
```

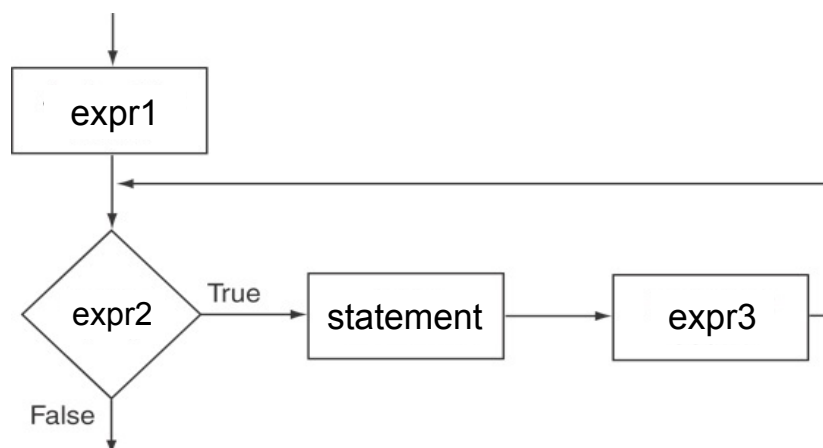
- How it works:

1. `expr1` is executed (initialization)
2. `expr2` is evaluated (test)
3. If it is true, then `statement` is executed, then `expr3` is executed (update), then go to step 2.
4. If (when) it is false, then `statement` is skipped (and the loop is done).

16

The for loop flow chart

```
for (expr1; expr2; expr3)  
    statement
```



17

The for loop and the while loop

- The for statement

```
for (expr1; expr2; expr3)
    statement
```

- is equivalent to the following code using a while statement:

```
expr1;           // initialize
while (expr2) {   // test
    statement
    expr3;        // update
}
```

18

for loop example

- Example:

```
int number;
for (number = 1; number <= 3; number++)
{
    cout << "Student" << number << endl;
}

cout << "Done" << endl;
```

Equivalent to
number = number + 1

Note: no semicolon

- Output

```
Student1
Student2
Student3
Done
```

19