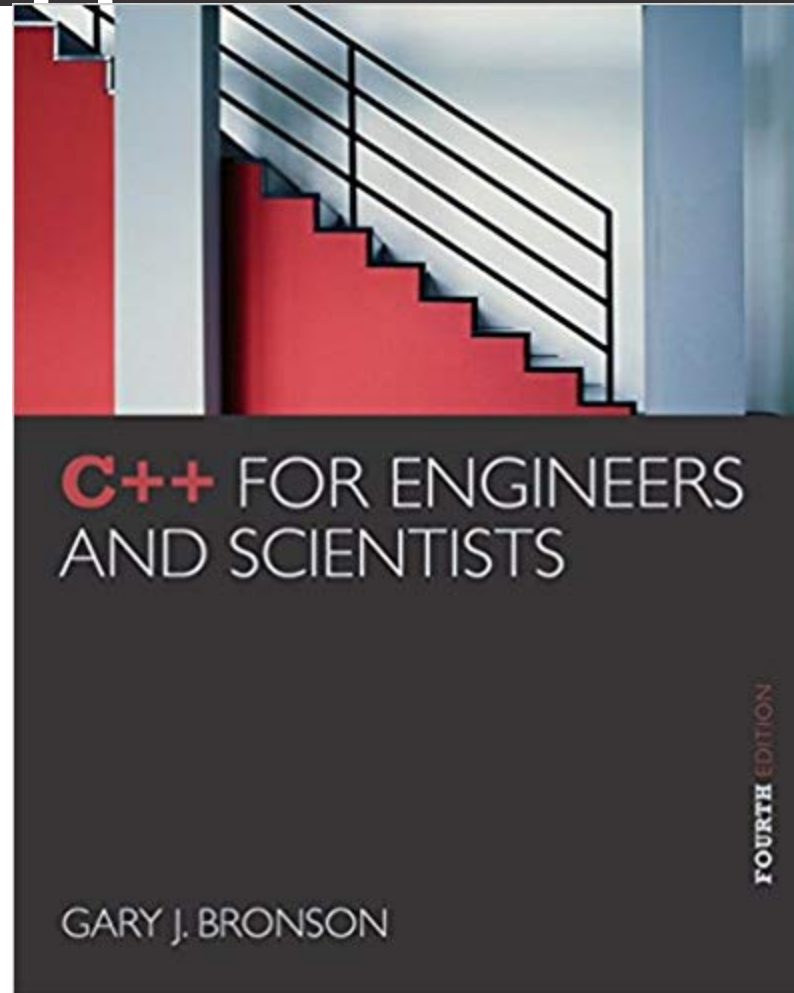


ELEG 1043

Computer Applications in Engineering





Chapter 5: Repetition Statements

Objectives

In this chapter, you will learn about:

- Basic loop structures
- **while** loops
- Interactive **while** loops
- **for** loops
- Loop programming techniques

Objectives (continued)

- Nested loops
- **do while** loops
- Common programming errors

Exercise

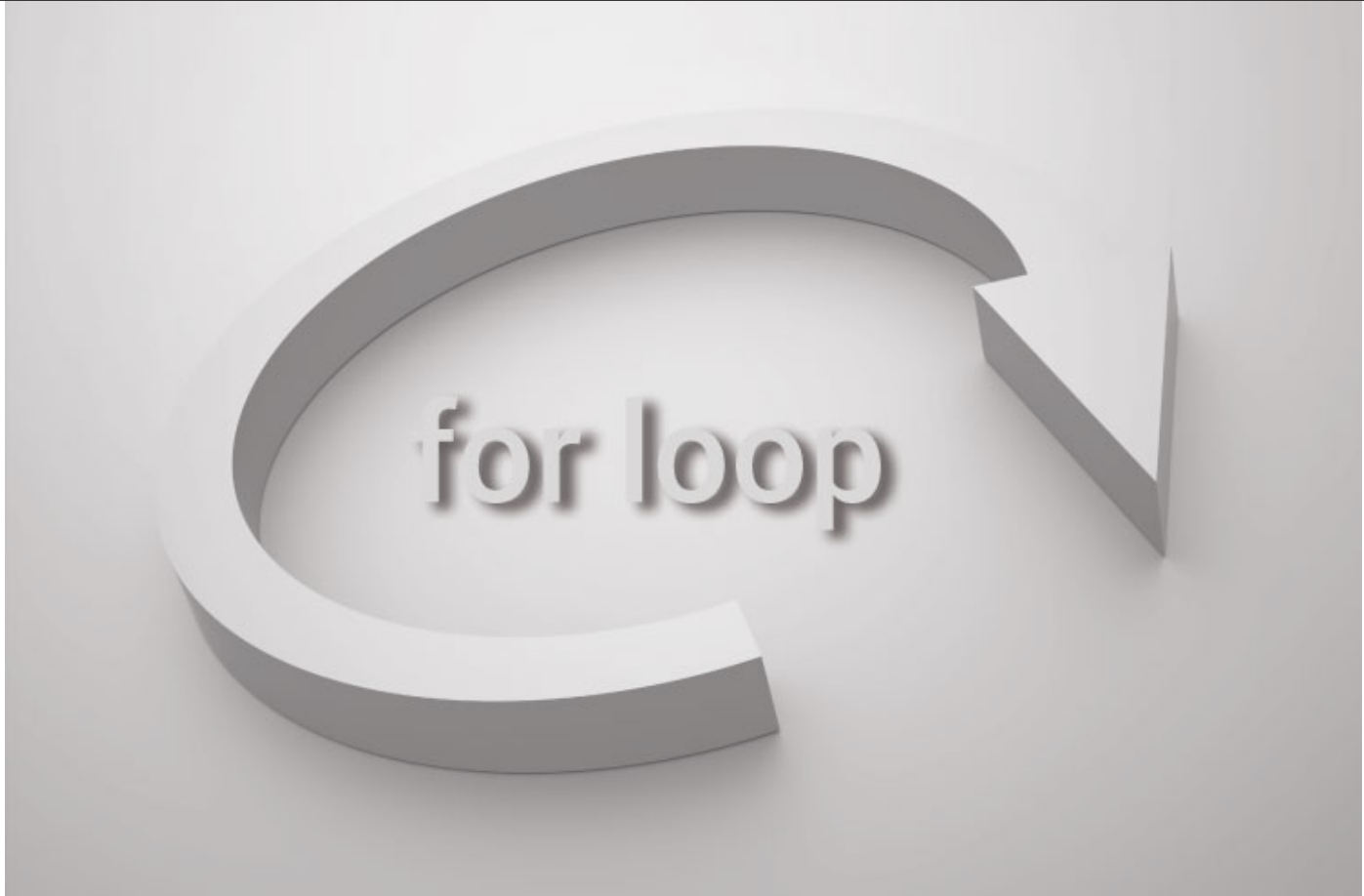
- Write a Program to print the numbers from 1 to 10 in increments of 3 with loop statment. The output of your program should be the following:

1 4 7 10

Answer

```
#include <stream>
using namespace std;
int main(){
int num = 1;
while(num < 11){
    cout<<num<<" ";
    num = num + 3;}
return 0;
}
```

for Loops



for Loops

- **for** statement: A loop with a fixed count condition that handles alteration of the condition
 - Syntax:
for (initializing list; expression; altering list)
statement;
- **Initializing list:** Sets the starting value of a counter
- **Expression:** Contains the maximum or minimum value the counter can have; determines when the loop is finished

Exercise

- Write a Program to display the numbers from 1 to 10 in increments of 2 with the loop statement. The output of your program should be the following:

1 3 5 7 9

Answer

```
#include <iostream>
using namespace std;

int main()
{
    for(int i = 1; i <10; i = i + 2)
    {
        cout<<i<<" ";
    }
    return 0;
}
```

Exercise

- What will be displayed after each of the following loops is executed? (10 points) :

```
total = 0;
for (i = 3; i <= 10; i = i + 1)
{
    total = total + 3;
    cout<<total<<"  ";}
```