

Flow of Control

Flow of control

- Definition: The sequence in which the computer executes statements of the program.

Sequential Control Structure

Selection (Branching) Control Structure

- Relational and Logical Operators

Repetition (Loop) Control Structure

- while loops

- for loops

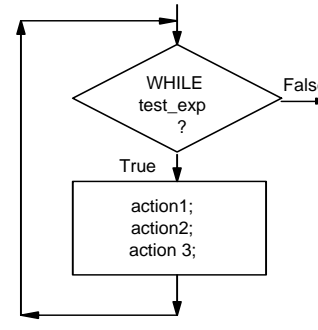
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Repetition (Loop) Structure

- Control structure used to repeat a sequence of instruction is in a loop.

- The simplest loop structure is the while()



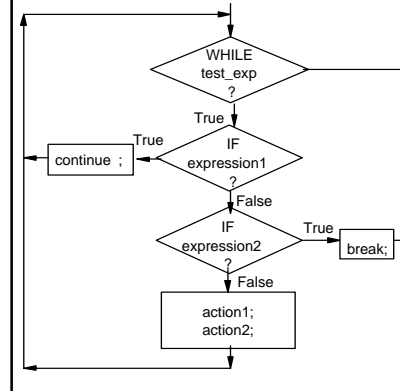
```

Count = 0;
while(Count < 10)
{
    Action1;
    Action2;
    Count = Count + 1;
}
  
```

```

<HTML><HEAD>
<TITLE>Grade Determination</TITLE>
<SCRIPT LANGUAGE = "JavaScript">
var Score=0, ScoreTotal=0, Count=0;
while(Count < 5)
{
    Score = parseInt(window.prompt( "Enter Score", "" ));
    ScoreTotal = ScoreTotal + Score;
    Count = Count + 1;
    document.writeln("Score " + Count + " = " + Score + "<BR>");
}
document.writeln("<H2>The Average Score = " + ScoreTotal/5 +
"</H2>");
</SCRIPT></HEAD>
<BODY><P>Click Refresh (or Reload) to run the script again</P>
</BODY></HTML>
          
```

break; continue; commands



```

while(test_exp)
{
    if(expression1)
        continue;
    if(expression2)
        break;
    action1;
    action2;
}
  
```

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Grade Determination - Microsoft Internet Ex...

File Edit View Favorites Tools Help

Score 1 = 60
Score 2 = 70
Score 3 = 80
Score 4 = 90
Score 5 = 88

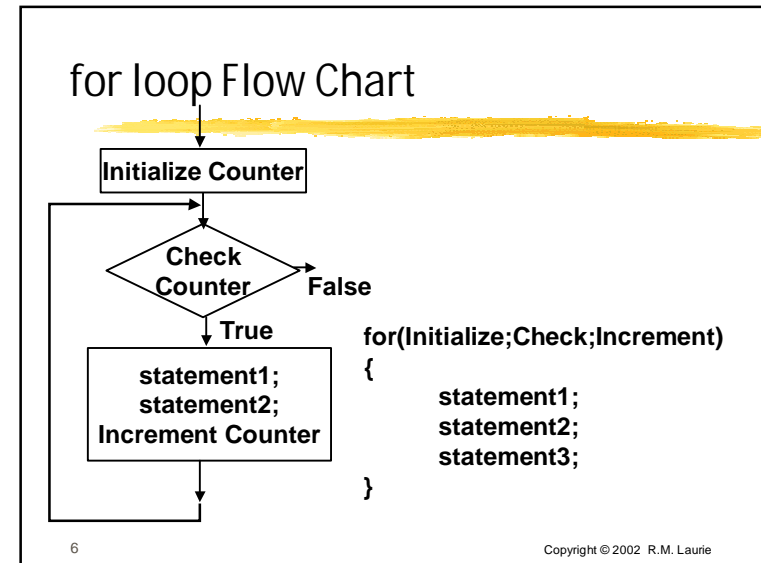
The Average Score = 77.6

Click Refresh (or Reload) to run the script again

```

<HTML><HEAD>
<TITLE>Grade Determination</TITLE>
<SCRIPT LANGUAGE = "JavaScript">
var Score=0, ScoreTotal=0, Count=0;
while(true)
{
  Score = parseFloat(window.prompt( "Enter Score (-1 to end)", "" ));
  if(Score < 0) break;
  ScoreTotal = ScoreTotal + Score;
  Count = Count + 1;
  document.writeln("Score " + Count + " = " + Score + "<BR>");
}
document.writeln("<H2>The Average Score = " + ScoreTotal/Count +
"</H2>");
</SCRIPT></HEAD>
<BODY><P>Click Refresh (or Reload) to run the script again</P>
</BODY></HTML>

```



Logical Operators

- There are three logical operators
 - AND &&
 - OR ||
 - NOT !

nA	!nA
F	T
T	F

nA	nB	nA&& nB	nA	nB	nA nB
F	F	F	0	0	0
F	T	F	0	1	1
T	F	F	1	0	1
T	T	T	1	1	1

Note: Precedence evaluate relational first and then logical

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Operator Examples

- if(A==B && A==C)
- !(A || B)
- !A && !B
- A <= B || C == D
- A = B == 0;
- if(A != 0);
- if(A=0) // Error use ==
- if(Question == 'C' || Question == 'c')
- SSN > 999999999 || SSN < 0
- Tax == 0 || Tax == 15 || Tax == 28

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Some More Operators

- **++** **Increment (Unary)**
Number++; // *Number = Number + 1;*
- **--** **Decrement (Unary)**
Number--; // *Number = Number - 1;*
- **.** **Object Property**
This operator is used to select a specific property of an object.
Stay tuned for more details...

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Operators Precedence (Highest to Lowest)

.	Property access of an object
()	Defines order of operation
- ++ --	Minus, Increment, Decrement
!	Logical NOT Operator
* / %	Multiply, Division, Remainder
+ -	Addition, Subtraction
< <= > >=	} Relational Operators
== !=	
&&	Logical AND Operator
	Logical OR Operator
=	Assignment

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Project 2: Part C

- **Create a JavaScript program that will accept any positive integer and display it's factorial**
 - The factorial is determined by multiplying all numbers from 1 to the selected number
- **Display in the browser window:**
 - The original original number
 - The factorial for the number
 - Format the output as you wish
 - Display your name in the browser window
- **Print code and browser display**

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