Conditions

• A *condition* is an expression involving *relational operators* (such as < and =) that is either true or false. Conditions also may include *logical operators* (such as And, Or, and Not).

• The relational operator *less than* (<) can be applied to both numbers and strings. The string a is said to be less than the string b if a precedes b alphabetically (lexicographically). Digits precede uppercase letters, which precede lowercase letters.
# Relational Operators

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<td>=</td>
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<tr>
<td>≠</td>
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Logical Operators

• $cond1$ And $cond2$
• $cond1$ Or $cond2$
• Not $cond1$
Operator Precedence

- First, all *arithmetic operations* are carried out, and then all expressions involving *relational operators* are evaluated (to true or false). The *logical operators* are next applied, in the following order: Not, then And, then Or. Evaluation on the same precedence level proceeds left-to-right.

- The order of computation can be altered using parentheses.
If Block

If condition Then
  action1
Else
  action2
End If
If Block: Example

If a<b Then  ‘This If block can be improved
   If c<5 Then  ‘using the And operator
      picBox.Print “hello”
   End If  ‘The Else clause is optional!
End If
ElseIf Clauses

If condition1 Then
    action1
ElseIf condition2 Then
    action2
ElseIf condition3 Then
    action3
Else
    action4
End If

Constructs in which an If block is contained inside another If block are called **nested** If blocks.
Single-Line If Statement

If condition Then action1 Else action2

• No End If is needed in this special case.