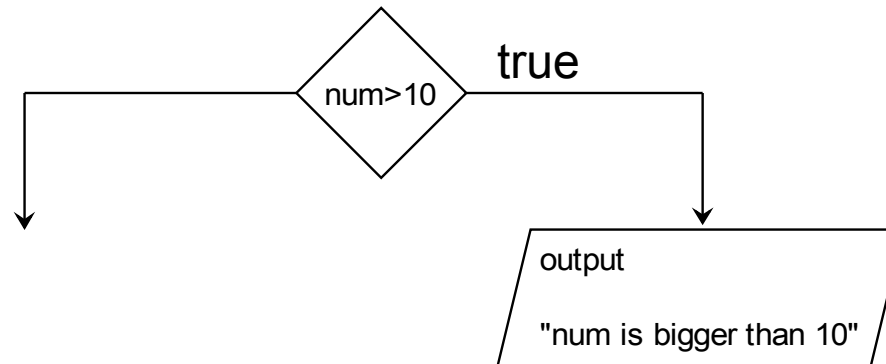


# The “if” & “if else” Control Statements

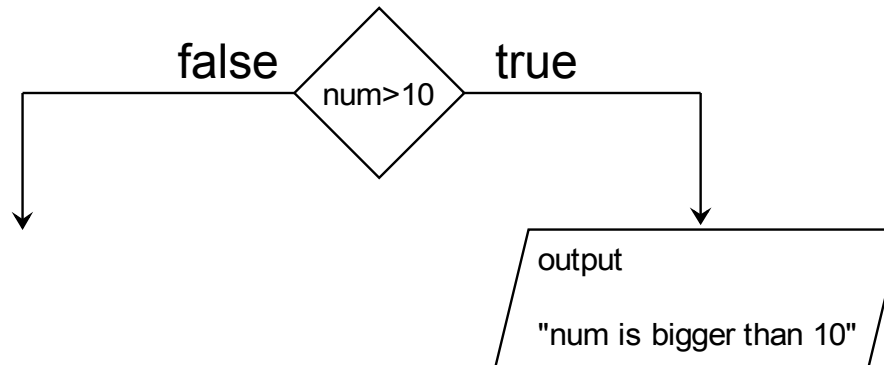
# Introduction

- The 'if' statement can be used to order the computer to perform a specific instruction (or a set of instructions) if a specified condition is 'true'.

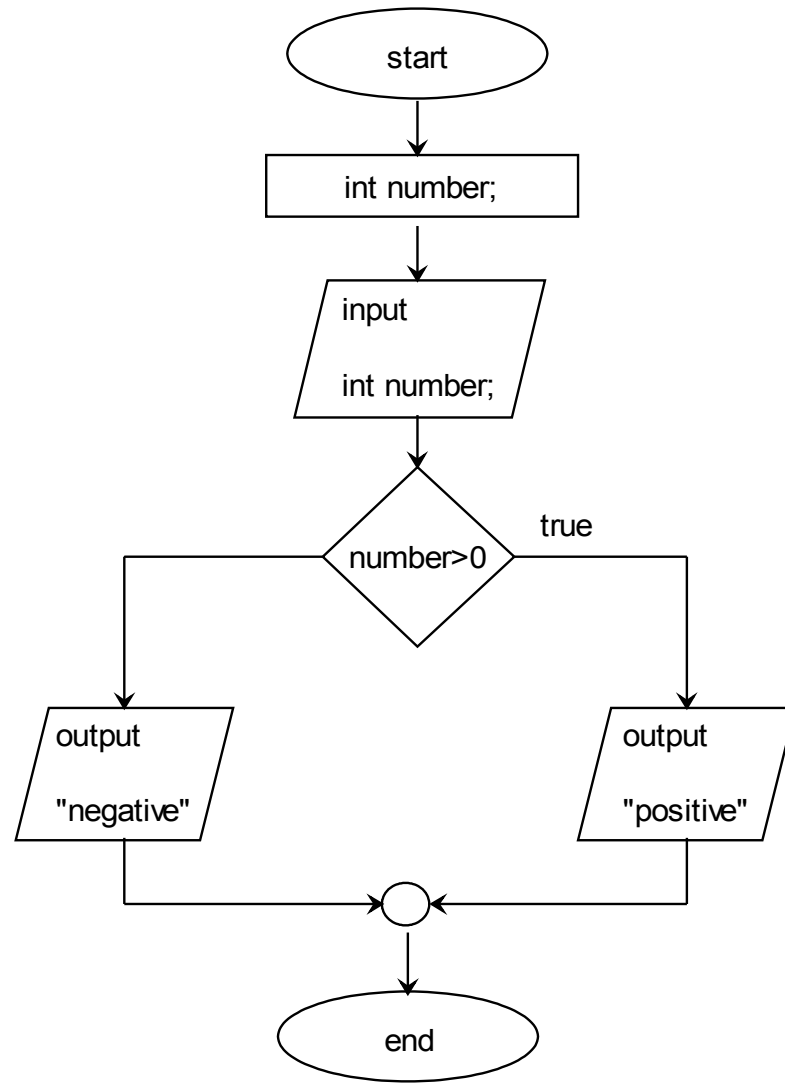


# Introduction

- The 'if else' statement can be used to order the computer to perform a specific instruction (or a set of instructions) if a specified condition is 'true' and to perform another specific instruction (or a set of instructions) if the specified condition is false.



# Sample



# Operators & Operands

- Operator is a special graphics based notation that works on one (or more) operands.
- Operand is anything an operator can work on.  
[operand] [operator] [operand]
- The result of execution of one operator on one (or more) operands is a new expression with a value type according to the operator definition.

Example:

The value of  $24 + 6$  is calculated by executing the '+' operator on two operands: 24 and 6.

# Operators & Operands

- Programming languages include different types of operators, including the following:

## Mathematic Operators

+   -   \*   /   %   etc.

## Logical Operators

&&   !   ||   ^

## Comparison Operators

<   <=   >   >=   ==   !=

# Comparison Operators

- The comparison operators are being used to compare two values. Their result is a boolean value ('true' or 'false').
- The common comparison operators are:

<

<=

>

>=

==

!=

# Logical Operators

- The logical operators are being used with boolean values.
- The common logical operators are:

!

&&

||

^



# The ! Operator

- The logical ! operator works on one operand. The operand must be of a boolean type.
- The logical ! Operator turns 'false' into 'true' and 'true' into 'false'.

The ! Operator	
A	!A
true	false
false	true

# The && Operator

- The logical && operator works on two operands. These operands must be of a boolean type.
- The logical && Operator works in the following way:

A	B	A && B
true	true	true
true	false	false
false	true	false
false	false	false

# The || Operator

- The logical || operator works on two operands. These operands must be of a boolean type.
- The logical || Operator works in the following way:

A	B	A    B
true	true	true
true	false	true
false	true	true
false	false	false

# The ^ Operator

- The logical ^ operator works on two operands. These operands must be of a boolean type.
- The logical ^ Operator works in the following way:

A	B	A ^ B
true	true	false
true	false	true
false	true	true
false	false	false

## The “if” & “if else” Control Statements

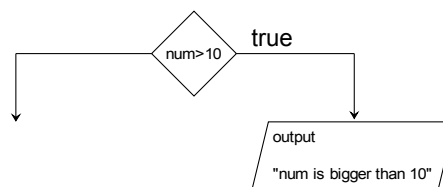
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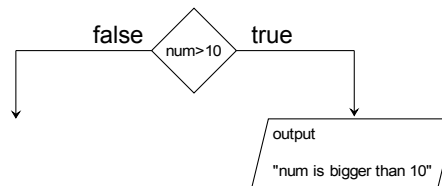
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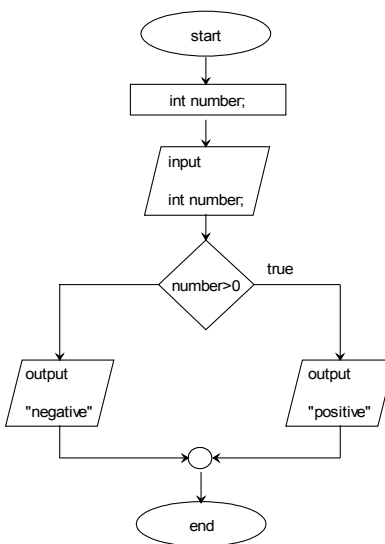


## Introduction

- The 'if else' statement can be used to order the computer to perform a specific instruction (or a set of instructions) if a specified condition is 'true' and to perform another specific instruction (or a set of instructions) if the specified condition is false.



## Sample



12/31/08

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## Operators & Operands

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&lt;=

&gt;

&gt;=

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||

^

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false	true	false
false	false	false

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A	B	A    B
true	true	true
true	false	true
false	true	true
false	false	false

## The ^ Operator

- The logical ^ operator works on two operands. These operands must be of a boolean type.
- The logical ^ Operator works in the following way:

A	B	A ^ B
true	true	false
true	false	true
false	true	true
false	false	false