Quiz

Though slide “66”

**Important Points in class**

Double = 15 or 16 significant

Float = 7 or 8

Set width

Steam manipulator to set left

Set precision

Defaults to 6

Significant figure mode = set precision regular

Decimal places = fixed manipulator

Force display of decimal point = show point manipulator

**8 byte field example**

**Add one hundred to variable and then print everything left justified in 8 byte field**

“23.142..”

“123.14..”

Double dbl = 23.1415967895

cout << left << showpoint << set precision (5)

cout << setw(8) << dbl

4.6

if(

else( if(expression) )

else( if(expression) )

else( if(expression) )

)

A\_SCORE = named constant \*can’t change\*

Error trapping

4.7

Boolean value set to T or F

Signals a condition

4.8

Logical operators

|  |  |  |
| --- | --- | --- |
| **Operator** | **Meaning** | **Effect** |
| **!** | **NOT** | The ! operator reverses the truth of a boolean expression. If it is applied to an expression that is true, the operator returns false. If it is applied to an expression that is false, the operator returns true. |
| **&&** | **AND** | Connects two boolean expressions into one. Both expressions must be true for the overall expression to be true. |
| **||** | **OR** | Connects two boolean expressions into one. One or both expressions must be true for the overall expression to be true. It is only necessary for one to be true, and it does not matter which one. |

Logical operators return 0 or 1

Memorize

|  |  |  |  |
| --- | --- | --- | --- |
| **Order of Precedence** | **Operators** | **Description** | **Associativity** |
| **1** | **(unary negation) !** | Unary negation, logical NOT | R-L |
| **2** | **\* / %** | Multiplication, Division, Modulus | L-R |
| **3** | **+ -** | Addition, Subtraction | L-R |
| **4** | **< > <= >=** | Less-than, Greater-than, Less-than or equal to, Greater-than or equal to | L-R |
| **5** | **== !=** | Is equal to, Is not equal to | L-R |
| **6** | **&&** | Logical AND | L-R |
| **7** | **||** | Logical OR | L-R |
| **8** | **= += -=**  **\*= /= %=** | Assignment and combined assignment operators. | R-L |

TEST Question

|  |  |
| --- | --- |
| (x > y) && (y > z) | true |
| (x > y) && (z > y) | false |
| (x <= z) || (y == z) | false |
| (x <= z) || (y != z) | true |
| !(x >= z) | false |

Study 65 and 66

W > x > y

7 > 6 > 5

CH 4

4.1

Relational Operators

* used to compare numbers and determine relative order
* will only return 1 or 0

|  |  |  |  |
| --- | --- | --- | --- |
| **Order of Precedence** | **Operators** | **Description** | **Associativity** |
| **1** | **(unary negation) !** | Unary negation, logical NOT | R-L |
| **2** | **\* / %** | Multiplication, Division, Modulus | L-R |
| **3** | **+ -** | Addition, Subtraction | L-R |
| **4** | **< > <= >=** | Less-than, Greater-than, Less-than or equal to, Greater-than or equal to | L-R |
| **5** | **== !=** | Is equal to, Is not equal to | L-R |
| **6** | **&&** | Logical AND | L-R |
| **7** | **||** | Logical OR | L-R |
| **8** | **= += -=**  **\*= /= %=** | Assignment and combined assignment operators. | R-L |

Boolean expression

* any statement that will evaluate to T or F

Truth value

* By Boolean expressions
* By numbers
  + A true numerical statement displays 1
  + False displays 0

4.2

If statement

* Selection Logic
* On or other will execute
* **Both will never execute**
* **Neither will never execute**
* Conditionals executes or skips certain statements
* Expression
  + Condition
* Statements
  + Action
* Caution
  + Testing **DOUBLES AND FLOATS FOR EQUALITY**
  + **; after expression will close the loop**
  + **== vs = in expressions**
  + **== compare**
  + **= assigns \*changes memory\***

4.3

Expansion

4.4

If / else

* Provides two paths

4.5

Nested If

* More than one condition

Dangling else

* Notes