

COUNTERS

- A variable that is incremented by a constant value.
- Used for counting guesses, the numbers of values entered, the number of times a button was clicked, and so on.
- The value of a counter is updated in the statement:

```
counter = counter + 1  
counter = counter - 1
```

```
int i = 5;  
  
i = i + 1;  
i = i - 2;  
i = i * 4;  
i = i / 2;
```

SHORTCUTS

- You can combine the math operator with the equal sign. This method will actually use the variable as the first operand in the expression. Here are those same statements re-written with the shortcut.

```
int i = 5;  
  
i += 1;  
i -= 2;  
i *= 4;  
i /= 2;
```

i++ and i--

- One of the most common math functions is the addition or subtraction of 1 to a variable. Since it is so common, C# has a built in shortcut operator for each operation.
- The increment operator is "++". When you use this operator, it will add 1 to your variable.

```
int i = 5;  
i++;      //i now equals 6  
i++;      //i now equals 7
```

- The decrement operator is "--". When you use this operator, it will subtract 1 to your variable.

```
int i = 5;  
i--;      //i now equals 4  
i--;      //i now equals 3
```

ACCUMULATORS

An accumulator is a variable that is used to sum numerical values in lists.

- A variable that is incremented by a varying amount.
- Often used for keeping a running total.

accumulator = accumulator + new value or accumulator += new value

- Unlike a counter which is updated by a set amount, an accumulator can vary.