# Module 06: Combined Assignment and Operators

*Intro to Computer Science 1 - C++*

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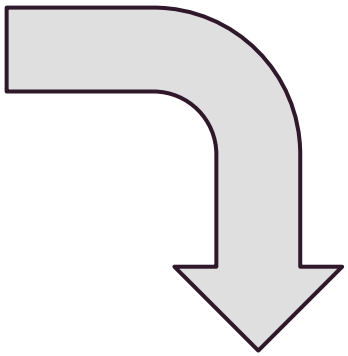
# Shorthand

Going forward, we will see there is much C++ syntax dedicated to letting you type less!

```
int x = 5;
int y = 6;
int z = 7;
```

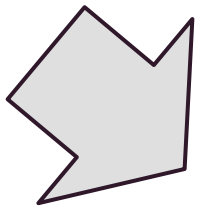


Note - you can't mix and match data types!

```
int x = 5, y = 6, z = 7;
```

# Printing

```
cout << x;
cout << “  “ ;
cout << y;
cout << “ “;
cout << z ;
cout << endl;
```



```
cout << x << “ “ << y << “ “ << z << endl;
```

# Reading from user

```
cin >> x;
cin >> y;
```

```
cin >> x >> y;
```

Remember though - you typically prompt for each input, so this savings is not often used...

# Assignment

If you want several variables to be set to the same thing, we can also chain together assignment operators…

```
x = y = z = 7;
x = y = z = w;
x = y = z = w + s;
```

= is evaluated right to left - always!

remember… if you set z = 6, only z changes….

z = 7 is actually an expression - the answer is 7! Remember this...

# Enhanced mathematical assignment

Often we want to change a given variable by a certain amount.

```
x = x + 5;
```

```
x += 5;
```

```
x = x - 5;
```

```
x -= 5;
```

```
x = x * 5;
```

```
x *= 5;
```

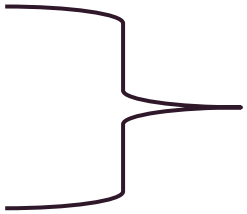
```
x = x / 5;
```

```
x /= 5;
```

# Incrementing / Decrementing

It also turns out that adding or subtracting just 1 is also very common

```
x = x + 1;
x += 1;
x++;
++x;
```



There are some subtle differences between these…

```
cout << x++ << endl;
```
...or
```
cout << ++x << endl;
```

# Lab 3

Ask the user for an integer between 0 and 999

Compute the sum of all the digits

ex. 932 would be calculated as 9 + 3 + 2 = 14.

**Hint**: Use % and / to extract each digit, similar to how we computed change.