

Reassigning a variable relative to its current value

- This is a common pattern with many operators.

- When looping with a counter variable:

```
i = i + 2
```

```
# or
```

```
i = i - 1
```

- When adding some number to a total:

```
total_dollars = total_dollars + next_donation
```

- Building up a string with concatenation:

```
message_to_send = message_to_send + "!!!"
```

- Notice with long variable names this is a lot of redundancy to type!

Relative Reassignment Operators

When reassigning a variable relative to its current value, such as:

```
i = i + 1
```

The *addition reassignment operator* shorthand has the same effect:

```
i += 1
```

There are reassignment operators for other operators, as shown in the table.

Since you will use meaningfully descriptive variable names, this is a big improvement!

```
total_dollars = total_dollars + next_donation
```

vs

```
total_dollars += next_donation
```

Before	After
<code>i = i + expr</code>	<code>i += expr</code>
<code>i = i - expr</code>	<code>i -= expr</code>
<code>i = i * expr</code>	<code>i *= expr</code>
<code>i = i / expr</code>	<code>i /= expr</code>
<code>i = i % expr</code>	<code>i %= expr</code>
<code>i = i // expr</code>	<code>i //= expr</code>
<code>i = i ** expr</code>	<code>i **= expr</code>