Variables and Constants

A byte size lesson in Java programming.

What is a variable?

- A variable is a location for us developers to store valuable information our program needs e.g. score.

How do we declare and assign a variable?

- Remember the format to declare and assign a variable:

```
type name = value;
```

- We can declare a variable once but assign a value many times.

- The value of a variable can change when the program is running.

Let's test your understanding!

- Which part is missing in the assignment, the type, the name or the value?

- What is the most important clue that is given to you?

```
int score = 100;
```

What is a constant?

- A constant is data that stays the same every while a program is running.

- This means that once it is assigned it cannot change!

- Used for data that is set in stone for example `DAYS_WEEK = 7`.

How do we assign a constant?

- Remember the format to assign a variable:

```
type name  = value;
```

- To make it a constant, we just add the word final in front of the declaration:

```
final double DAYS_WEEK  = 7;
```

Which is a variable and which is a constant?

```
int mark   = 70;      variable

final float PI = 3.14f;      constant
```