Variables

Game Programming Foundations
ICT20115 – Certificate II Information, Digital Media and Technology

# Contents

- What is a variable

- Basic variable types

- How do we use variables?

- Variable naming conventions

What are Variables?

- A Variable is simply a container for storing information within your code

- You can store numbers, text and other information that can later be used and changed

- If you have done math in school that uses, for example, **x** or **y** in place of a number, you have already used variables!

What are Variables?

- When you create a variable, you give it a name

Name ➜ Contents (Value)

- Later you can change the contents of a variable, but not the name

numCats ➜ 12

- You can retrieve the contents (the **value**), and store a new value in its place.

✗ numDogs ➜ 14 ✓
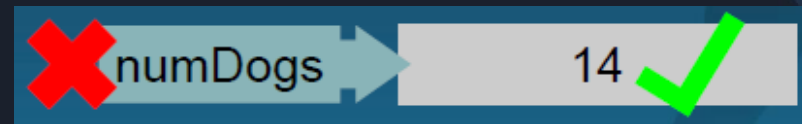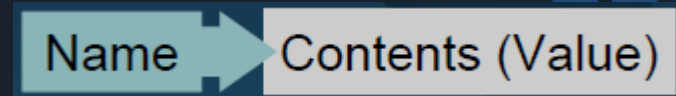
Basic Variables Types

- Integer - int
    - Whole numbers, such as 5
    - Can't have decimal values

- Floating Point - float
    - Can have decimal values, such as 5.16
    - Only up to 7 decimal places, ie, 3.1234567

Basic Variables Types

- Boolean - bool
  - Stores True or False.

- Characters - char
  - Is a single letter, such as 'r' or 'R'
  - The computer really stores them as numbers
    - Search the Internet for "ascii table".

How do we use a Variable

- To declare a variable, write the type followed by the name

- To initialize a variable (give it an initial value), use the '=' sign

- We can declare and initialize at the same time

```
int numberOfEnemies;
```

```
numberOfEnemies = 5;
```

```
int numberOfEnemies = 5;
```

aie
SPECIALIST EDUCATORS IN
GAMES, ANIMATION & FILM VFX

Summary

- Variables allow us to store a value, and to give that value a name

- We have several different basic types of data we can store in a variable: float, int, bool, and char

- We should follow a common-sense naming convention when creating variables, and initialize them before using them

References

- Microsoft. 2016. *Types (C# Programming Guide)*. [ONLINE] Available at:https://msdn.microsoft.com/en-us/library/ms173104.aspx. [Accessed 31 March 2016].