Data Types (8.2.1)

# Elementary

Data type: a particular kind of data item, as defined by the values it can take, the programming language used, or the operations that can be performed on it.

6 Most Common Data Types

1. Characters
2. Strings
3. Integers
4. Real Numbers
5. Booleans
6. Date and Time

# Basic

## Strings

(Action Script 3) var stringValue:String = “This is a string”;

Strings can be used to output to text fields to display information (formatted/non-formatted).

## Integers

(Action Script 3) var intValue:int = 1998;

Integers can be used to do simple whole number calculations within the program.

## Real Numbers

(Action Script 3) var numberValue:Number = 1998.0225

Real Numbers can be used to do more complex mathematical calculations that require more precision.

## Booleans

(Action Script 3) var booleanValue:Boolean = true;

Booleans can be used in if statements to determine whether or not to do something in a program.

# Sound

Integers are used to keep track of the left and right player score. Scores are a whole number in this game so integers are perfect for this.

A Boolean has been used to store whether or not the game has ended.

|  |  |  |
| --- | --- | --- |
| Data Name | Data Type | Justification |
| Name | String | Names are a sequence of characters (ASCII). |
| Age | Integers | An age is always a integer. |
| Email | String | An email is a sequence of characters. |
| Image | Bitmap | Bitmap maps the bits of the image. |
| Phone Number | String | A phone number is a string because it can have leading 0s or country codes that begin with a + |

# Thorough

# Extensive

By changing the data type of the variable scrollSpeed from an integer to a number the program is able to store the decimal values of the variable thrust that are added onto the scrollSpeed.

As integers cannot store decimal values, when given the value 0.5 the flash compiler floors the value to 0 so nothing is being added to the scrollSpeed.

When a Number is used the value 0.5 does not get floor but is stored as 0.5.