# Key elements

|  |  |  |
| --- | --- | --- |
| **Name** | **Example** | **Definition** |
| **Semicolon ;** | int enemyCount = 4; | Determines the end of a line in code |
| **Curly brace { }** | Void Main()  {  } | Known as a Compound statement or block of code. It contains code that is relevant to the containers information.  The example shows a block of code for a function called main. |
| **Brackets ()** |  |  |
| **Square Brackets []** |  |  |
|  |  |  |
| **static** |  |  |
|  |  |  |
| **Namespace** |  |  |
|  |  |  |
| **library** | using System; |  |
|  |  |  |

# Variables and Operators

|  |  |  |
| --- | --- | --- |
| **Name** | **Example** | **Definition** |
| **variable** |  |  |
| ***Integer*** |  | Integer is a whole number that cannot have a decimal value. |
| ***Float*** |  | Floating point number; a number that can have decimal values. |
| ***String*** |  | A variable that stores text. |
| ***Boolean*** |  | Boolean can store true or false. Can be very powerful. |
|  |  |  |
| **Operator** |  |  |
| ***Addition and Subtraction*** |  |  |
| ***++ or --*** |  |  |
| ***Multiply and Divide*** |  |  |
| ***Modulo*** |  |  |
| ***+= or -=*** |  |  |
| ***Null*** |  |  |
|  |  |  |
| **Arrays** |  |  |
| **Lists** |  |  |
| **Enum** |  |  |
| **Multidimensional Array** |  |  |
|  |  |  |

# Conventions

https://learn.microsoft.com/en-us/dotnet/standard/design-guidelines/

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Link** |
| **Naming Guidelines** | | |
| ***Capitalisation*** |  |  |
| ***General Naming*** |  |  |
| ***Comon Code Conventions*** | | https://learn.microsoft.com/en-us/dotnet/csharp/fundamentals/coding-style/coding-conventions |
| ***Language Guidelines*** |  |  |
| ***Implicitly typed local variables*** |  |  |
|  |  |  |
|  |  |  |

# Control Flow

|  |  |  |
| --- | --- | --- |
| **Name** | **Example** | **Definition** |
| **If Statement** |  |  |
| **Else** |  |  |
| **Else if** |  |  |
| ***Less than*** |  |  |
| ***Greater Than*** |  |  |
| ***Equal to*** |  |  |
| ***Greater than or equal to*** |  |  |
| ***Not Equal to*** |  |  |
|  |  |  |
| **Switch** |  |  |
| **Case** |  |  |
| **break** |  |  |
|  |  |  |
| **For Loop** |  |  |
| **While Loop** |  |  |
| **Do While Loop** |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Functions and Classes

|  |  |  |
| --- | --- | --- |
| **Name** | **Example** | **Definition** |
| **Function/Method** |  |  |
| ***parameters*** |  |  |
| ***Return type*** |  |  |
| ***void*** |  |  |
|  |  |  |
| **public** |  |  |
| **private** |  |  |
|  |  |  |
| **Class** |  |  |
| **Object** |  |  |
| **Constructor** |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Read and write

|  |  |  |
| --- | --- | --- |
| **Name** | **Example** | **Definition** |
| **System.IO** |  |  |
| **File.Exists()** |  |  |
| **StreamReader** |  |  |
| **Peek()** |  |  |
| **TryParse()** |  |  |
| **StreamWriter** |  |  |
| **WriteLine()** |  |  |
|  |  |  |
|  |  |  |

# Unity

|  |  |  |
| --- | --- | --- |
| **Name** | **Example** | **Definition** |
| **Monobehaviour** |  |  |
| **Start / Awake** |  |  |
| **Update** |  |  |
| **Fixed Update** |  |  |
| **Vector3** |  |  |
| **Transform** |  |  |
| **Quaternion** |  |  |
| **Euler** |  |  |
|  |  |  |
| **Rigidbody** |  |  |
| **GetComponent** |  |  |
|  |  |  |
| **NavMeshAgent** |  |  |
| **SetDestination** |  |  |
|  |  |  |
| **Instantiate** |  |  |
| **Destroy** |  |  |
|  |  |  |
| **deltaTime** |  |  |
| **Random.Range** |  |  |
|  |  |  |
|  |  |  |