

# Script Language Reference and Guide

This section will explain the features of [AngelScript](#), the script language used by Amnesia (like the syntax, data types, variables, functions, control flow statements, OOP support, etc.), and provide a guide on how to use these features in the context of the [HPL2 engine](#). This is the fundamental knowledge that will help you understand how map scripting for Amnesia works. This guide is intended to teach you *scripting (programming)*, and to be used as a reference to the *features* and the *rules* of the script language itself. It is *not* meant to teach you how to accomplish specific tasks in your custom stories and full conversions for Amnesia (although you might end up learning a few things about that as well).

The guide doesn't make any assumptions about your previous scripting or programming experience. If you are just starting out, you'll probably want to go through the topics in the order listed here. If you feel more comfortable with the scripting language, you can jump right to any page you want. Each topic assumes you're familiar (at least to some extent) with the topics that come before it in this list.

Every topic begins with the "At a Glance" section, which is intended to be used as a quick remainder, a "cheat-sheat" of sorts; if you're new to the topic, you can skip to the "Discussion" section which immediately follows it.

This is work in progress. Some of the information is currently missing. You are welcome to contribute, but please try to follow the format used throughout.

The following subsections are available:

- **Execution Flow** - explains how program flow is transferred from the game to the script engine, and vice versa,
- **Quick Start** - a quick introduction to map scripting,
- **Variables** - explains what variables are and how to use them.
- **Types** - discusses various types supported by the script language.
- **Constants and Enumerations** - explains how to define constant values.
- **Functions - Part 1: The Basics** - explains the basics of functions, and how to create them and use them.
- **Control Flow - Part 1: Conditional Statements** - explains if, if-else, and switch statements, which are used to make decisions.
- **Control Flow - Part 2: Loops** - discusses while, do-while and for loops.
- **Arrays** - array types in detail.
- **Functions - Part 2: Beyond the Basics** - explains const-parameters, function overloading and function wrapping.
- **Functions - Part 3: Digging Deeper** - explains passing by reference, using callbacks and using funcdefs.
- etc... (-> advanced stuff: classes, composition, inheritance, polymorphism)
- etc... (-> a brief overview of common mistakes and of debugging, maybe a few more things)
- **Sandbox Map(s?)** - a simple map (or maps, haven't decided yet...) to help you learn.

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