

Tutorial on C++

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Preface

This is a Quarto book on learning C++ from the tutorial website: learncpp.com.

To learn more about Quarto books visit <https://quarto.org/docs/books>.

1 Introduction

This is a book created from markdown and executable code.

See Knuth (1984) for additional discussion of literate programming.

```
1 + 1
```

```
[1] 2
```

2 Control flow introduction

In C++, CPU run the program from the beginning of `main()` function to its end. This running follows a sequence called **execution path**. There are types of path:

- **Straight-line program**: take tge same path every time they are run
- C++ provides different **control flow statements**: allow us to change the normal execution path through the program. One example of the control flow is `if` statements.
- **Branching**: when control flow statement causes execution point to change to a non-sequential statement.

Figure Figure 2.1 below show the categories of **flow control statement**:

Category	Meaning	Implementated in C++ by
Conditional statements	Conditional statements cause a sequence of code to execute only if some condition is met.	If, switch
Jumps	Jumps tell the CPU to start executing the statements at some other location.	Goto, break, continue
Function calls	Function calls are jumps to some other location and back.	Function calls, return
Loops	Loops tell the program to repeatedly execute some sequence of code zero or more times, until some condition is met.	While, do-while, for, ranged-for
Halts	Halts tell the program to quit running.	<code>std::exit()</code> , <code>std::abort()</code>
Exceptions	Exceptions are a special kind of flow control structure designed for error handling.	Try, throw, catch

Figure 2.1: Categories of flow control statements

3 Summary

In summary, this book has no content whatsoever.

Markdown allows you to write using an easy-to-read, easy-to-write plain text format.

```
1 + 1
```

```
[1] 2
```

References

Knuth, Donald E. 1984. “Literate Programming.” *Comput. J.* 27 (2): 97–111. <https://doi.org/10.1093/comjnl/27.2.97>.

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