

C Programming

Module Introduction

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**Introduction**

In this module you will be introduced to some of the principles of programming, and specifically learn to write fairly simple programs using a programming language called C.

An idea central to this module is that programming is about problem solving; you write a program to solve a particular problem. It is hoped that at the end of the module you should see that there is nothing magical or mysterious about programming. One of the features some people like about programming is you are making the computer do what you want.

During the programming exercises, do not worry about making mistakes. In this module you will expected to try out programs and eventually write your own. Therefore, the approach you should take when errors occur is to find out what went wrong, fix it, and learn from the mistakes.

**Module textbook**

The module is based around the book **Mastering C programming (ISBN: 987-0333498422)** by W.A. Chapman. Each Learning Package will have questions and tasks for you to have a go at whilst working through the Learning Package. At the end of most of the Learning Packages, there will be a set of exercises for you to test what you learnt.

**Module structure**

The Learning Packages are divided as follows:

| **Learning Package** | **Topic** |
| --- | --- |
| **1** | Introduction to C Programming |
| **2** | Data Types and VariablesNow do Module Assignment 1 |
| **3** | Conditional Expressions and Decisions |
| **4** | Going Loopy |
| **5** | Functions |
| **6** | Applications 1Now do Module Assignment 2 |
| **7** | Pointers and arraysNow do Module Assignment 3 |
| **8** | I/O Operations and Files |
| **9** | Structures |
| **10** | Application 2Now do Module Assignment 4 |
| **11** | Computer Science bit |
| **12** | Odds and EndsNow do Module Assignment 5 |

**Study guide**

Each Learning Package in this module comes with a suggestion of how this Learning Package can be split-up into blocks of work that can be done in one sitting. These are only suggestions, so you should feel free to form your own plan of work.

**Acknowledgement**

The Dev C++ programme used in this learning resource is free software published under GNU General Public License (<http://www.gnu.org/licenses/>).