

PREFACE

If you have bought this book (or had it bought for you) then there is a high probability that you are seriously considering undertaking a Computer Science degree at university. Presumably you have had some experience of using computers, perhaps even programming them and, having enjoyed that, you are thinking that you would like to learn more about them and that you might choose a career related to the development or use of computers. Some people get to that stage and start filling in their university application (UCAS) form with little further thought about what they are letting themselves in for. The aim of this book is to give you some more food for thought before you start committing yourself. You need to know what Computer Science is, how it is taught in universities, how best to decide which universities to apply to, and then what it will be like to study on your chosen course.

In a busy life, it may be hard to find the time to read a book such as this. Yet, if you are thinking of committing three or more years of your life to the intense study of Computer Science, perhaps it is a worthwhile investment to take this time to find out more about what you will be letting yourself in for. However, if you really do not have the time to read the whole book, you might use it as a reference to dip into in order to find the essential information you need. For instance, you might keep it at hand when you are reading university prospectuses and web pages.

It is not easy to define Computer Science. ‘The science of computation’ is an easy phrase, but what is behind it? In fact there are many different interpretations of Computer Science, and these are reflected in the different courses that are offered in our universities. Deciding to study Computer Science at university thus involves two steps: first ensuring

that it is the subject that you want to study, and then ensuring that you apply to departments that teach the ‘flavour’ of Computer Science most appropriate to your own interests.

It is vital to make sure you know what Computer Science in order to ensure that your current fascination with computers will be sustained through three or four (or more!) years of intense, academic study. Part I of this book will help you with that, giving brief descriptions of most of the component topics of Computer Science. It is important to be clear, though, that no degree course will cover all of those topics; there are just too many of them. Any course will have been designed to cover a subset of the topics and that is where Part I can help you to find the right course for you. Part II will also help you to choose the course and departments and to make your applications to them.

Part III takes the next step. It assumes that all has gone well, that you have found a place on an undergraduate course, and that you now have to make the most of the opportunities you find there.

It might seem that the last thing a sixth-form student needs is another book to read. The intention has been to keep this one short, but nevertheless it may seem too much to take on. It should still be worthwhile to dip into the book to pick out the bits of information you need. For instance, if a course description or prospectus contains subjects or terms which you do not understand, you should find an explanation in this book, probably in Part I.

In writing this book, the intention has been to make it as accessible as possible to its intended readers. On the one hand, the nature of the topic means the book has to be technical, but it is meant to be at a level that is understandable to ‘A’ level students. The book has to be accurate and correct and not over-simplified. Support must be given for some assertions and arguments and the contribution of others must be acknowledged. Thus, the normal academic conventions for citing references to other works is used. A name and date (for example, Edwards 1995) refers to the list of references at the end of the book, where you can find details of the original source of information (a book, in this example).