Java in Two Semesters

Featuring JavaFX

- Offers a clear structure for learning in which each chapter maps onto one week of a twelve week semester, with the chapter content mapping on to a two hour lecture
- Provides within each chapter a set of learning outcomes, self-test tutorial questions, and practical lab tasks
- Presents two extended worked case studies
- Supplies supplementary material at an associated website, including Java code, multiple-choice questions, artwork that can be incorporated into lecture slides, IDE support notes, and a list of useful weblinks

This easy-to-follow textbook teaches Java programming from first principles, as well as covering design and testing methodologies. The text is divided into two parts. Each part supports a one-semester module, the first part addressing fundamental programming concepts, and the second part building on this foundation, teaching the skills required to develop more advanced applications. This fully updated and greatly enhanced fourth edition covers the key developments introduced in Java 8, including material on JavaFX, lambda expressions and the Stream API. Topics and features: begins by introducing fundamental programming concepts such as declaration of variables, control structures, methods and arrays; goes on to cover the fundamental object-oriented concepts of classes and objects, inheritance and polymorphism; uses JavaFX throughout for constructing event-driven graphical interfaces; includes advanced topics such as interfaces and lambda expressions, generics, collection classes and exceptions; explains file-handling techniques, packages, multi-threaded programs, socket programming, remote database access and processing collections using streams; includes self-test questions and programming exercises at the end of each chapter, as well as two illuminating case studies; provides additional resources at its associated website (simply go to springer.com and search for “Java in Two Semesters”), including a guide on how to install and use the NetBeans™ Java IDE.