



e-Testing

Imagine having all the following **database e-learning** services at your fingertips:

- Your very own *personal* on-line weekly testing program *delivered digitally right to your desktop* – without the need to re-schedule your plans, travel or any other inconvenience. Get a digital learning stream right to your desktop!
- Your very own *full and customized solutions and marking feedback* from a database expert – returned promptly *every week* – again, digitally to your desktop. No need to wait for formal assignments to be returned by your local tutor to judge your progress. Monitor your own progress week-by-week!
- All the above rich e-learning resources provide a *constant feedback mechanism* throughout your database studies that culminates in *an extensive and highly detailed revision archive* – to be used for the final examination.

Sounds good? Well you can have such a customized e-learning service for your own database studies for just **£7 per week** (yes – just £1 a day!). We normally run this service over a 30-week learning cycle* – this allows us to give each database sub-topic detailed treatment while allowing you thinking and assimilation time between tests. (* *We can condense this period down – please email us for individual requirements*)

All you need to subscribe is an **email account** that we can send the weekly tests, full solutions and personal marking feedback to. It really is that simple. Use our e-Testing service to supplement your local tutor and see your understanding of databases deepen and your grades rise!

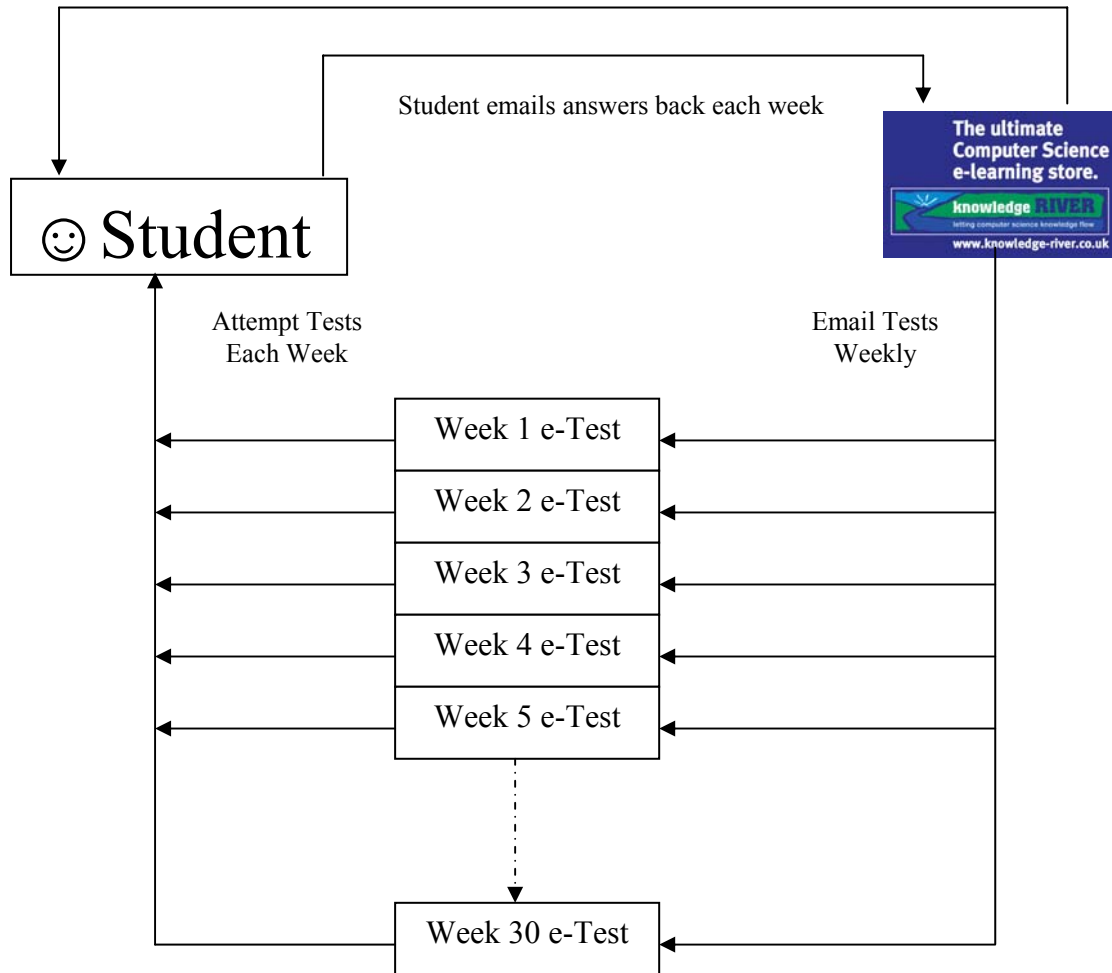
Further benefits include:

- The ability to **cancel (unsubscribe) any time** – just email us – this gives you maximum flexibility. We don't lock you in to inflexible contracts. We use the 'Pay As You Learn' principle. Restart, drop-in, drop-out or finish as you wish.
- The ability to **pay weekly** – to spread the costs – although if you find it more convenient you can pay for several blocks of weeks at a time (the number of blocks is entirely up to you: 2-blocks, 4-blocks, 10-blocks or even the whole 30-blocks in one go). Again, we are trying to give you **maximum payment flexibility**.
- The ability to **pay electronically using PayPal** – so convenient, instant and secure - just pay from your desktop in a few seconds with a couple of clicks.*

* *If you prefer we can take cheques – please email us for details.*

Here is how the **e-Testing** service works...

Marked answers, specimen solutions and personal feedback returned each week



So what database topics are covered?

The Knowledge River e-Testing service covers a wide range of technical database topics. Each weekly test will cover one or more of these topics and will build up into a valuable archive of technical database knowledge.

We have itemized these topics below but the list is not meant to be exhaustive and we will slot in additional material as and when needed.

Please turn over...

- Pre-database storage
- Evolution and history of modern database technology
- Core data management concepts
- DBMS fundamentals & key terminology
- Legal & ethical issues
- The database development lifecycle
- The three-schema architecture
- Conceptual data models & Entity Relationship Diagrams (ERDs)
- ERD components (entities, relationships, participation conditions, degree etc)
- Entity sub-typing and attribute inheritance
- ER models, constraints and assumptions
- The relational model and its development
- Primary & foreign keys (and all their variant formats)
- Other types of relational constraint (attribute constraints, domain constraints etc)
- Relational terminology - Cardinality, Degree, Domains etc
- The role of relational algebra
- The relational operators
- Select, Project, Join, Divide, Difference, Union, Intersection, Times etc
- The need for normalization
- The concept of functional dependency
- Normal forms – 1NF, 2NF, 3NF, BCNF
- Problems without normalization
- Problems with normalization
- The role of de-normalization
- SQL – what it is and where it came from
- SQL data sub-languages – DDL, DML, DQL and DCL
- Creating, altering and dropping tables, views, indexes etc
- Embedding primary keys, foreign keys and all other types of table constraints
- Inserting, modifying and deleting data
- SQL queries – SELECT...FROM...WHERE
- Use of logical operators, nulls, LIKE, wildcards etc
- Joins, Sub-Queries, Set Operations
- Cursors, Routines, Triggers, Privileges, Transactions
- Implementing Complex Data & Database Restructuring
- Testing strategies
- Textual analysis and information modelling
- Distributed databases - the three distributed data models
- Their underlying distribution architectures and concepts
- Information integration
- Data warehousing architectures and data mining techniques
- XML databases - XML elements, Parsing, DTD, schema, XSLT
- XPath, XQuery, XML & relational data
- Application development
- Embedded SQL, Host Languages & Variables
- Database interfaces - ODBC
- Java and databases - JDBC, SQLJ etc

Still interested? Then please read on...

Final points:

- The actual weekly tests will be emailed out in PDF format
- You only need the free Adobe reader software to read them
- All communication (both directions) is via email
- Each test will be emailed out on a Friday – to allow weekend working on it
- Student responses (answers) should ideally be returned in MS-Word format
- This allows us to embed detailed comments and feedback in same document
- The specimen answers will be sent as a separate PDF document at same time
- We shall return marked work and specimen solutions within a few days

If you feel that such an e-learning service is of interest to you then please contact us directly via email at:

feedback@knowledge-river.co.uk

We can then finalize a personalized e-Testing service and payment schedule that suits you and get you started on the road to deeper database knowledge.

Many thanks for reading this and good luck with your database studies.

Knowledge River