**Advanced Kx for Data Analysis Course Outline**

| **Day 1** | |
|---|---|
| The Basics | An introduction to q. Starting sessions, defining variables etc. |
| In-built Functions | A review of stored procedures and functions. Also a description of all q key words (dev, wavg, type etc.). |
| Tables Overview | How to define tables. Differences between keyed and unkeyed tables. |
| Select Statements | An introduction to SQL-like kdb+ queries. |
| Table Arithmetic | Applying simple arithmetic operations to tables and dictionaries. |
| | |
| **Day 2** | |
| User-defined Functions | Syntax and examples of creating functions and executing them. |
| Joins | Simple joins between tables and/or dictionaries. |
| Adverbs | Description of adverbs in the q language and examples of where they are useful. |
| Functional/Dynamic Queries | Creating a dynamic query. Parsing the text format of a query into functional form. |
| | |
| **Day 3** | |
| Basic IPC | A basic introduction to q inter-process communication. Opening sockets. Sending queries and executing remote functions. |
| Advanced Select Statements | Advanced qSQL queries. |
| Optimisations and Performance | Discussion on optimising queries for performance reasons. |
| ODBC | A look at kdb+ in relation to ODBC. |
| Extracting Data/Language Interfaces | A look at interfacing q with one or more of the standard computer languages (Java, C/C++, C#). |