CPD224 Final Study Guide

Week 8 – Index Management

* What is an index
* Why use an index (i.e. what types of queries could an index improve)
* What is a table scan
* What is a B-Tree (Balanced Tree) and how does it relate to indexes
* The difference between a clustered index and a non-clustered index
* What is found at the leaf level
  + Of clustered index B-trees
  + Of non-clustered index B-trees
* What is index fragmentation
* DMV (Dynamic Management View) to determine index fragmentation
* What does it mean to REBUILD an index? REORGANIZE?
* DMV (Dynamic Management View) for finding missing indexes
* Using the GUI to manage indexes

Week 9 – Indexes and Index Creation

* What is a page split and why does it occur
* The relationship between a clustered index on a table and the primary key of that table
* T-SQL syntax to create a basic non-clustered index (CREATE …)
* What is a covering index
* What is a filtered index
* Why would you use the optional INCLUDE clause
* What is the component responsible for determining whether an index will actually be used when a SELECT statement is issued against the database

Week 10 – Database Engine Tuning Advisor

* Describe the types of recommendations made by the Database Engine Tuning Advisor
* Describe how to open the Database Engine Tuning Advisor
* List the workloads that can be used by the Database Engine Tuning Advisor
* Familiarity with the Tuning Options available (Slide 10)
* Describe how to apply the recommendations made by the Database Engine Tuning Advisor

Week 11– SQL Server Agent

* What is SQL Server Agent and for what is it used
* How to create a Job
* Types of Job Steps that can be created
* Familiarity with the “Advanced Options” page for a Job Step
* Running a job manually
* How to run a job on a schedule
* How to view job history
* What is the Job Activity Monitor and how is it used

Week 12– Database Mail, Operators & Alerts

* Describe how *Database Mail* is used
* Describe where an Operator is setup
* Describe a type of Alert that can be configured in SQL Server
* Identify where you can find the most recent Error Log from inside of SQL Server Management Studio (see slides 26-30)
* Explain what sp\_add\_alert does

Week 13 – Importing and Exporting Data

* List the methods that can be used in SQL Server to import data (bcp…etc.)
* List the methods that can be used to export data from SQL Server
* Familiarity with the *bcp* (Bulk copy program) command’s purpose and its syntax
* Familiarity with the purpose of *BULK INSERT* and its syntax

Week 14– SQL Server Integration Services

* What is SQL Server Integration Services (SSIS)
* What is the purpose of SSIS
* What are ETL tools
* What is an SSIS package
* How to create a new SSIS package (where do you go to begin a project…)
* File extension for SSIS packages
* The purpose of each of the tabs across an SSIS package (Control Flow, Data Flow, etc.)
* The purpose of deploying a package
* Using SSIS with SQL Server Agent

Week 15 – SQL Server Reporting Services

* What is SQL Server Reporting Services (SSRS)
* What is the purpose of SSRS
* Tips to keep in mind when creating reports
* What is the SSRS lifecycle
* What is Report Definition Language (RDL)
* What is SQL Server Data Tools (SSDT)
* What is Report Builder
* When would Report Builder be used
* How does SQL Server Analysis Services relate to creating reports