

# Testing Depreciation

Using Excel macros

A step by step guide

**XL Audit Commander**

data analysis made easier ...

# Session Objectives

## Visual Basic for Applications (VBA)

1. Understand the audit benefits of VBA and its audit use
2. Able to test (or calculate) depreciation using VBA
3. Test fixed asset records contained on worksheets using VBA
4. Ability to test fixed asset records in a file using VBA
5. Able to perform the accompanying case study
6. Perform an audit of fixed asset records in a more efficient and effective manner using the concepts and techniques presented

# Audit Benefits

- Efficient and Effective
- Reusable Code
- Consistency and Standardization
- Reliability
- Easier to Review results
- Repeatable audit process

# Features of this Module

- Most commonly used depreciation methods (SL, DB, UOP, SYD)
- Handle large volumes
- Flexible (can be tailored)

# Requirements

- Excel 2003 (or later)
- Windows XP
- Basic Familiarity with Excel

# Overview

- Excel VBA as an audit tool
- Code in a module, or
- Compiled and installed as a DLL

# The Excel Visual Basic Editor

- Macros
- Classes
- Modules
- Userforms

# Depreciation Methods

- Straight Line
- Sum of Years Digits
- Declining Balance
- Units of production

# Data Sources for testing

- WorkSheet range
- Data file (tab separated values)

# The Depreciation Class Overview

- Constants
- Properties
- Methods

# Depreciation Class “Properties”

- Depreciation period
- Fiscal Year start and end
- Acquisition Date
- Disposition date
- Cost
- Salvage
- Depreciation Method (SL, DB, UOP, SYD)
- Life
- DBRate
- Units of Production (Total)
- Units of Production (Current Period)

# Depreciation Class “Methods”

- Public versus private
- Public methods
- Clear
- Initialize
- Compute

## Private Methods (Helper functions)

- DoValidation
- DepreciationPeriodLength
- SYDSched
- DateOverlap
- FixDate

# Depreciation Computation Algorithm

## How it works

- First – dovalidation
- Next – compute depreciation period length
- Case Statement
- If “SL” then  $\text{depr} = \text{cost} - \text{salvage} / \text{life}$
- If “DB” then  $\text{depr} = \text{cost times rate}$
- If “SYD” call helper function (interperiod allocations)
- If “UOP” then compute current period fraction times cost

# Testing Depreciation on a worksheet

- Declare a class object
- Position cell at starting point
- For each row, obtain and store key accounting data
- Call compute
- Check error status
- Store computed value in a cell
- Loop through the worksheet (advance to the next row)

# Testing depreciation using a data file

- Basically the same concept as a worksheet
- Except – handle a file instead of a worksheet
- Declare a file scripting object class
- Split each input line and extract the needed columns such as cost, acquisition date, etc.
- Call the depreciation class compute method
- Check error status
- Write out results (either to a work sheet or a file)
- Read next record until end of file condition is encountered

# Next Up

- Demo for a workbook
- Demo for a data file
- Quiz – Test your understanding

# Summary and Wrap Up

- Understand the audit benefits of VBA and its audit use
- Able to test (or calculate) depreciation using VBA
- Test fixed asset records contained on worksheets using VBA
- Ability to test fixed asset records in a file using VBA
- Able to perform the accompanying case study
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# Quiz

- Test your knowledge
- System can e-mail score (if you desire)