



AdvTstUsingTools - Version: 1
22 September 2021

Advanced Test Design & Optimization Using Tools



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 **2 days Course**

Description:

Many test engineers learn and get certified, but rarely use the test design techniques that they have been taught. I found it strange, but then realized that testers like to use tools, and if techniques were implemented via tools, they would have used them more. </br>

Pairwise and Classification Trees are very good and efficient techniques for test design, prioritization of tests, and for saving time and money on performing the right tests first.

In this workshop, I shall present the techniques, and the tools (freeware) to exercise them in your projects right after the training.

Hands-on exercises will be performed throughout the workshop to exercise participants in using the techniques via the tools.

Intended audience:

Testers, testing team leaders and test managers ,that would like to know these very efficient techniques and their practical implementation, and use free proven tools to implement the techniques.

Prerequisites:

Basic testing knowledge about testing life cycle ,testtesting techniques and methods, test measurements.

Note: Class participants should have laptops/PC, with Windows 7/8, internet and email access and Office 2010/2013. Tools shall be provided and installed during the

workshop.

Objectives:

Understanding what is Pairwise and Orthogonal Arrays

Learn how to use the freeware 'allpairs' tool by James Bach, in your projects

Learn how to use the freeware 'PICT' tool by Microsoft (for pairwise), in your projects

Understanding what is Classification Trees

Learn how to use the freeware CTE- XL Editor in your projects

Topics:

° Business, Functional and Component tests

Introduction

- Presenting participants and trainer
- Challenges we are facing in testing today
- Challenges we face in test design

Classification Trees

- The CT basics
 - ° The Classification trees Method
 - ° Basics of CT
 - ° An Example
 - Business, Functional and Component tests
 - ° Exercise
- Classification Trees Editor Tool
 - ° Introduction and demo
- Advanced aspects in CT
 - ° Coverage using CT
 - Minimum &Maximum

- Exercise
- How to reduce test cases?
- Benefits of Classification Trees

Pairwise ,Orthogonal Arrays& All pairs

- The problem
- What is pairwise testing?
 - Calculating the pair combinations
 - Pairwise in the research
 - Why does pairwise testing work?
- Pairwise orthogonal arrays algorithms
 - Potential test case explosion
 - Pairwise testing theory
 - Orthogonal arrays theory and algorithm (using an example)
 - Exercise (orthogonal arrays)
 - All-pairs algorithm
 - Using all-pairs (tool demo)
 - Exercise (hands-on all-pairs, JB)
 - PICT tool demo
 - Exercise (hands-on PICT, MS)
- Implementation Risks

Wrap-up

- Your "take-away" from this course
- Summary discussion