Linux Programming & Scripting - Video course

NPTEL

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Electronics & Communication Engineering

COURSE OUTLINE

- The goal of the course is the study of scripting languages such as PERL, TCL/TK , Python and BASH
- Creation of programs in the Linux environment
- The study of the principles of scripting languages
- The study of usage of scripting languages in IC design flow

Learning Outcomes:

- Ability to create and run scripts using Perl / TCL / Python in IC design flow
- Ability to use Linux environment and write programs for automation of scripts in VLSI tool design flow

COURSE DETAIL

Unit No	Title
1	**Linux Basics** Introduction to Linux, File System of the Linux, General usage of Linux kernel & basic commands, Linux users and group, Permissions for file, directory and users, Searching a file & directory, zipping and unzipping concepts
2	**Linux Networking** Introduction to Networking in Linux, Network basics & tools, File transfer protocol in Linux, Network file system, Domain Naming Services, Dynamic hosting configuration Protocol & Network information Services. .

Coordinators:

Anand Iyer
Department of Electronics and communication EngineeringAMD

3	**Perl Scripting** Introduction to Perl Scripting, working with Simple Values, Lists and Hashes, Loops and Decisions, Regular Expressions, Files and Data in Perl Scripting, References &Subroutines, Running and Debugging Perl, Modules, Object-Oriented Perl.
4	**Tcl/tkScripting** Tcl Fundamentals, String and Pattern Matching, Tcl Data Structures, Control Flow Commands, Procedures and Scope, Evel, Working With UNIX, Reflection and Debugging, Script Libraries, Tk Fundamentals, Tk by Examples, The Pack Geometry Manager, Binding Commands to X Events, Buttons and Menus, Simple Tk Widgets, Entry and Listbox Widgets Focus, Grabs and Dialogs
5	**Python Scripting** Introduction to Python, Using the Python Interpreter, More Control Flow Tools, Data Structures, Modules, Input and Output,Errors and Exceptions, Classes, Brief Tour of the Standard Library.

References:

1. Instructor reference material.
2. Python Tutorial by Guido van Rossum, and Fred L. Drake, Jr., editor,¸ Release 2.6.4
3. Practical Programming in Tcl and Tk by Brent Welch , Updated for Tcl 7.4 and Tk 4.0
4. Teach Yourself Perl 5 in 21 days by David Till.
5. Red Hat Enterprise Linux 4: System Administration Guide Copyright ¸ 2005 Red Hat, Inc