# LAB 1

Course Code: CSC 2209 Course Title: Operating Systems


## Dept. of Computer Science
## Faculty of Science and Technology

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| **Lecturer No:** | **01** | **Week No:** | **01** | **Semester:** | |
| **Lecturer:** | *Name & email* | | | | |

# Lecture Outline


1. What is Shell and it's types
2. kernel Version
3. Current Directory
4. ls Command
5. Directory Creation
6. Directory Change
7. Empty File Creation

# What Is a Shell?

- A shell is a program that provides an interface between a user and an operating system (OS) kernel. An OS starts a shell for each user when the user logs in or opens a terminal or console window.
- Also known as – terminal, console
- Also known as Command Line Interface (CLI)

# Types of shells

- In UNIX/Linux there are two major types of shells:
- The Bourne shell. If you are using a Bourne-type shell, the default prompt is the $ character.
- The C shell. If you are using a C-type shell, the default prompt is the % character.
- There are again various subcategories for Bourne Shell which are listed as follows:
  - Bourne shell ( sh)
  - Korn shell ( ksh)
  - Bourne Again shell ( bash)
  - POSIX shell ( sh)
- The different C-type shells follow:
  - C shell ( csh)
  - TENEX/TOPS C shell ( tcsh)

# Kernel Version

- Open the **Terminal**.
- Enter **uname -r** this will show you what **kernel version you have**.
- **Architecture (32bit or 64bit)**
- This is useful if you want to determine which architecture are you running, 86, 64 or 32 bit.
- Open the **Terminal**.
- Enter **uname -m** this will show you what **architecture you are running**.

# Current Directory

- Your shell has a **current directory** — the directory in which you are currently working
  - Commands like ‘ls’ use the current directory if none is specified
  - Use the pwd (print working directory) command to see what your current directory is:

```
$ pwd
/home/fred
```

# ls command

- **ls** is one of the  most used basic linux commands, used to **print** contents of a directory, by default it lists contents of current working directory(**pwd**).

# How to create a directory

- To create a directory in UNIX or Linux using the mkdir command pass the name of directory to the mkdir command.
- The mkdir command makes new, empty, directories
  Syntax: $ **mkdir directory_name**
  Example: $ **mkdir OS1**

# How to create multiple directories

- To create multiple directories in UNIX or Linux using the mkdir command pass the names of directories to be created to the mkdir command. The names of directories should be separated by spaces.

- **mkdir** foo bar baz
- ls
- foo bar baz

# Change directory

- Change the current directory with cd:
  - Syntax: $ **cd /folder/subfolder**
  - **Syntax $ cd dir_name/ path_name**
  - Example: $ **cd /desktop/os**
- You can check changed directory using **pwd**
- $ **pwd**
  - **/desktop/os**
- Use cd without specifying a path to get back to your home directory

## Current , Parent, and Hidden Directories

- The special **.** and **..** directories don't show up when you do ls They are **hidden directories**,

  **.** means current directory

  **..** means parent directory
- Directories name starting with . are considered 'hidden'
- Make ls display all files and directories, even the hidden ones, by giving it the -a (all) option:
  $ **ls –a**

  .

  ..
- To go to parent directory we can use $ **cd ..**

# How to Create an Empty File

- The following touch command creates an empty (zero byte) new file called test.
- 
- Syntax: touch file_name
- >> touch test.txt

# Books

- Unix Shell Programming
  - Written by Yashavant P. Kanetkar