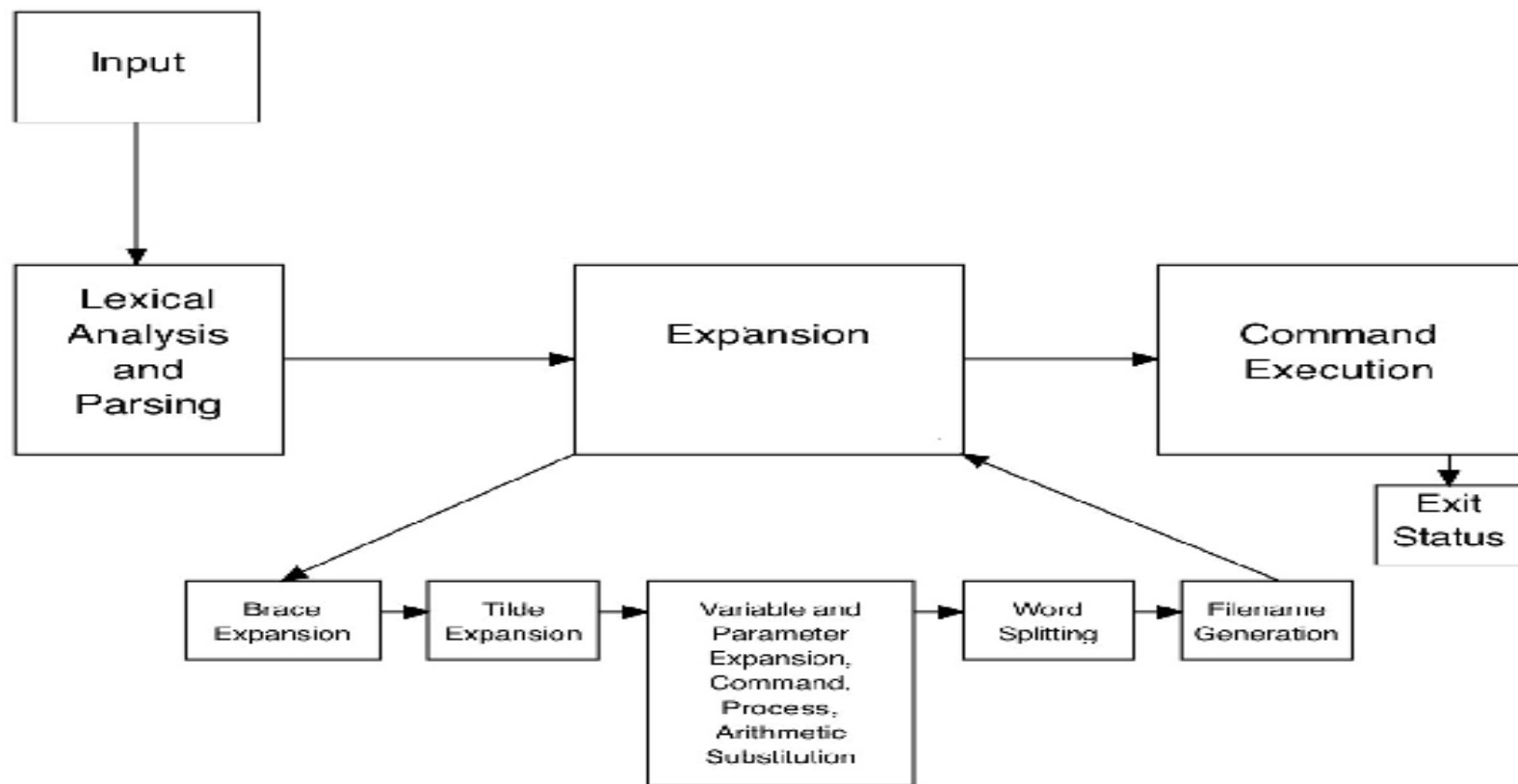# Linux Shell

Session 3

# Agenda

- What is shell
- Different types of linux shells
- Bourne Again Shell
- Shell variables (Environment and user defined)
- Shell files (.bashrc, .profile, .bash_profile, .bash_logout)
- Wild cards (* and ?)
- I/O redirection and tee command
- Shell meta characters
- Command line expansion

# Shell

- Place of Shell

- Why

- How

- What

# Activities of Shell

# Facilities in Shell

- Interface

- Interpretation

- History

- Command substitution

- Command line editing

# Types

- Bourne Shell

- C Shell

- Korn Shell

- Bourne Again Shell

# Bourne Again Shell

- Superset

- Features

- Location

  - /bin/bash

  - ps

# Shell Variables - System vs User Defined

- Displaying all variables

  env

- Important variables

  - PATH, ?, SHELL, TERM, USER and so on

- Accessing values of variables

  - $

- Declaring and defining new variables

  - Default value, mistakes in syntax, type

# Shell files

- .bashrc

- .profile

- .bash_profile

- .bash_logout

# Magic of wild cards

- Wild card expansion
    - Saving time
- Who does it
    - command or shell
- wildcards
    - \* - Match everything
    - ? - Match single character
    - [], [!], [<range>] - Restrictive (specific char)
- Exceptional case . and /

# I/O redirection

- Three files

  Standard input - 0 **or** keyboard **or** < filename **or** | <command>

  Standard output - 1 **or** Display **or** >, >> filename **or** command |

  Standard error - 2 **or** Display **or** 2> filename

- What it means to redirect
- How to redirect
- tee command, /dev/null file and /dev/tty file as special examples

# Shell meta characters

- Redirection

  - > >> < |

- Variable Value Access

  - $

- Command substitution

  - `<cmd>` or $(cmd)

# Command line expansion

- Useful to store result of command

  - var=`cmd` **or** var=$(cmd)

- in echo

  echo "Size of my file is **`wc -c myfile`** bytes"

# Retaining special metacharacters and wildcards

- Escape sequencing

  - \, Contradiction for \t and \n

- Single quotes

  - ' '

- Which is better?