

Introduction to UNIX/shell

<http://tinyurl.com/bash-slides-bmi715>

Meeta Mistry, PhD

Bioinformatics Analyst and Trainer

Harvard Chan Bioinformatics Core (HBC)

Slides courtesy of Radhika Khetani, PhD

What is UNIX?

- ✦ Unix is an operating system
- ✦ It was originally developed at Bell labs in the late 60s for programmers
- ✦ Easily coordinates the use and sharing of a computer's (or a system's) resources and allows multi-user capacity, among other features

Why UNIX?

- ✦ Unix is **stable**, **efficient** and **powerful**
- ✦ It is very widely used
- ✦ Can easily handle complex tasks on large datasets
- ✦ Repetitive tasks can be very fast and very easy

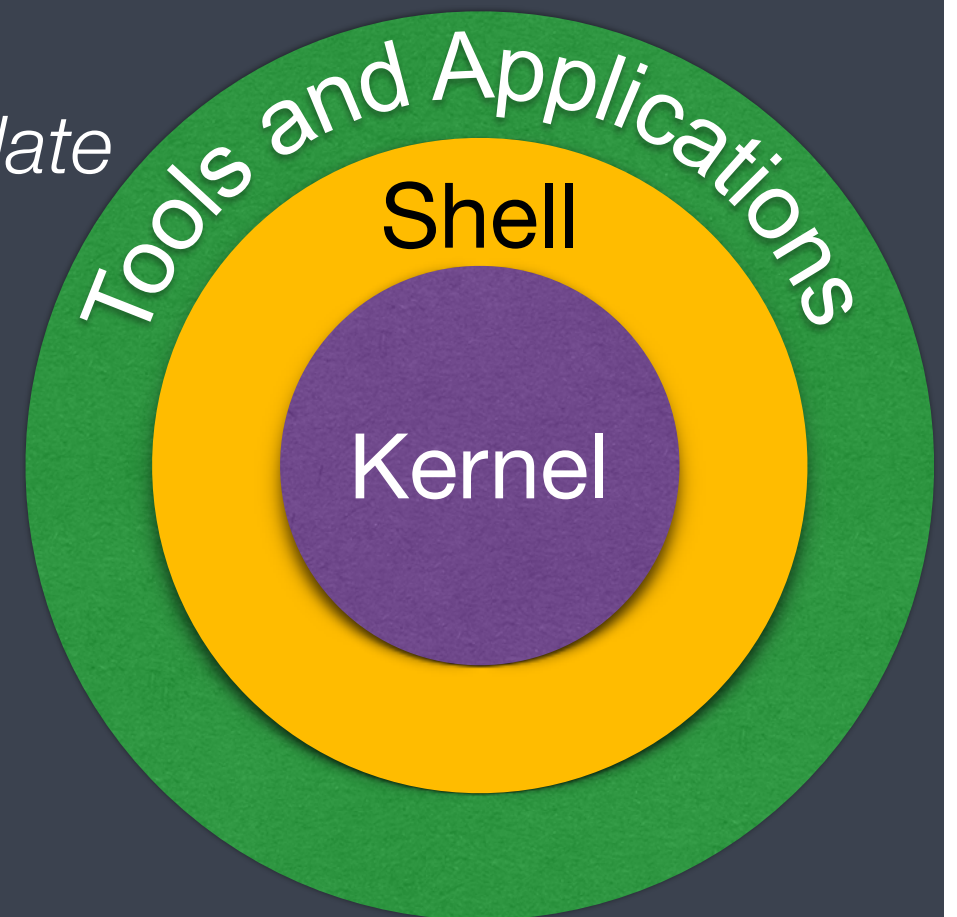
Bioinformatics:

- ✦ A large proportion of NGS-analysis tools are created for Unix
- ✦ Computational resources (e.g. clusters) that can handle large datasets require a working knowledge of Unix

Components

The Unix system is functionally organized at three levels:

- ♦ **The kernel**, which schedules tasks and manages storage: the brain of the system
- ♦ **The shell**, *an interpreter that helps translate our input into computer language*
- ♦ **Utilities, tools and applications**



The “shell”

- ✦ The shell (interpreter) is independent of the operating system, but essential
- ✦ Dozens of shells have been developed throughout UNIX history
- ✦ “Bourne shell,” named for its inventor, Steven Bourne, was the first major shell
- ✦ The most commonly used shell is **bash**; bash stands for “**b**ourne **a**gain **s**hell”

Linux

- ✦ Linux is a free, open-source operating system based on Unix
- ✦ It has the same components as the original, but the open source community is involved in active development of various distinct distributions of Linux



ubuntu[®]



fedora^f



Let's get started...

<http://tinyurl.com/bash-lesson-bmi715>

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