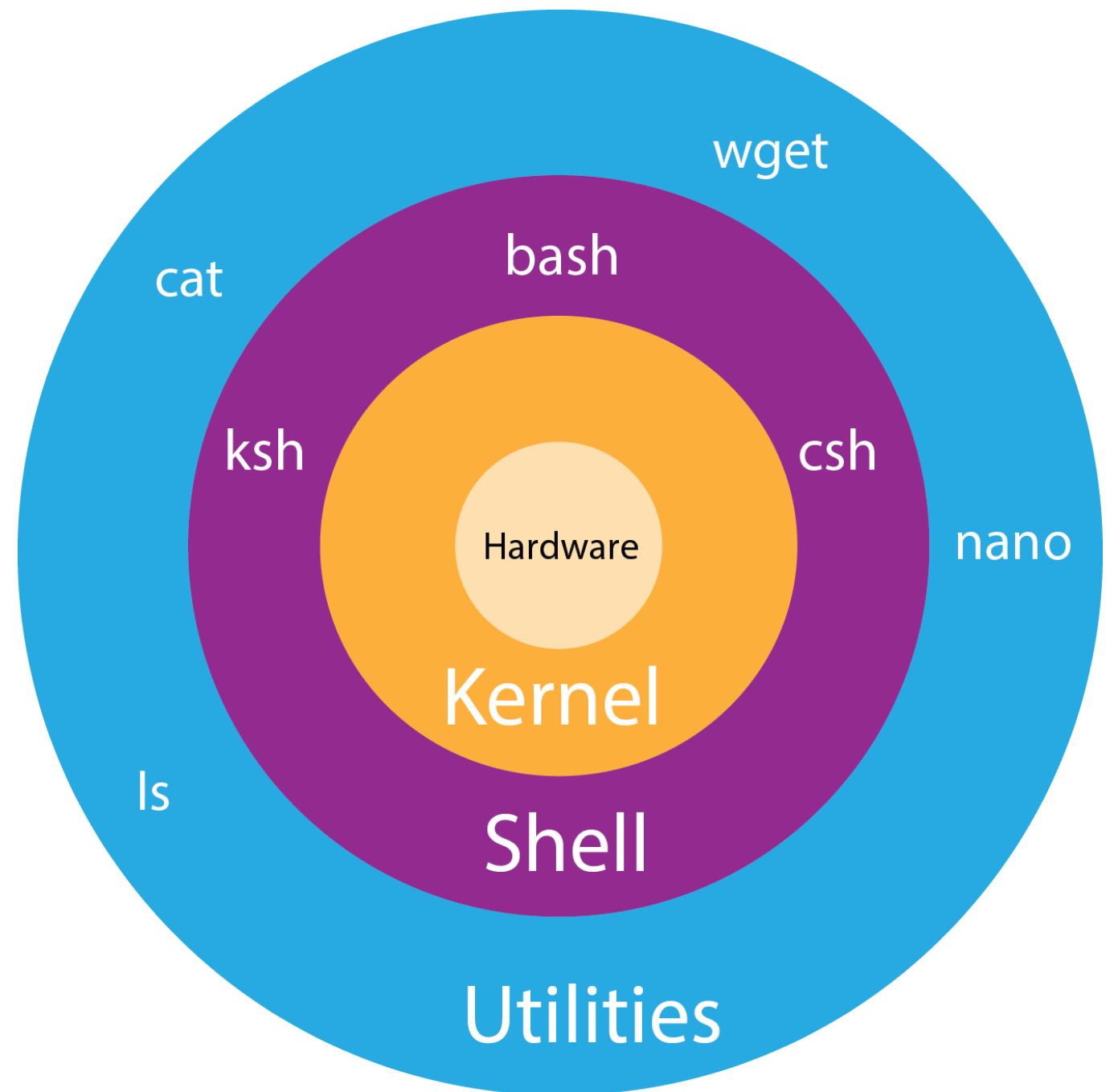# Shells

What is shell?

A shell is a program that acts as an interface between the user and the operating system (OS) kernel

The shell acts as a command interpreter; it takes each command and passes it to the operating system kernel to be acted upon. It then displays the results of this operation on your screen.
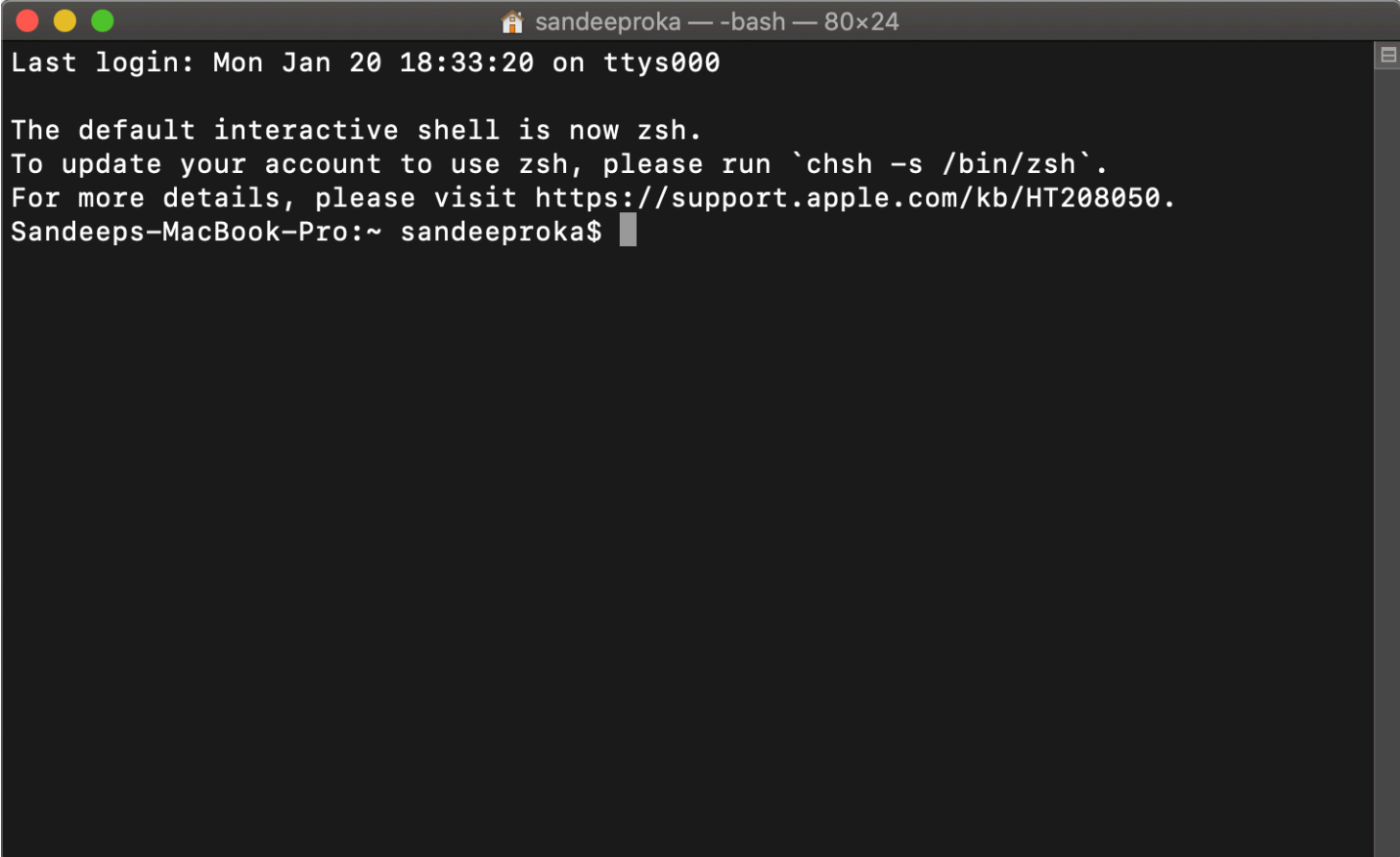
Types of Shell

1. Bourne Shell

    1.   The Bourne Shell (sh)

    2.   Korn Shell (ksh)

    3.   Bourne Again Shell (bash)

2. C-type Shell

    1.   The C Shell (csh)

    2.   TENEX c Shell (tcsh)

```
sandeeproka — -bash — 80×24
Last login: Mon Jan 20 18:33:20 on ttys000

The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
Sandeeps-MacBook-Pro:~ sandeeproka$
```

1. The Bourne Shell

-The Bourne shell is the original UNIX Shell(command execution program, often called a *command interpreter*) that was developed at AT&T. Named for its developer, Stephen Bourne, the Bourne shell is also known by its program name, *sh*.

-The shell prompt (character displayed to indicate readiness for input) used is the $ symbol.

1. The Bourne Shell

-It is the original UNIX shell. It is faster and more preferred.

-It lacks features for interactive use like the ability to recall previous commands. It also lacks built-in arithmetic and logical expression handling.

- Command full-path name is /bin/sh and /sbin/sh,

Non-root user default prompt is $

Root user default prompt is #.

2. Korn Shell

-It is denoted as **ksh** .

-It Was written by David Korn at AT&T Bell LabsIt is a superset of the Bourne shell.So it supports everything in the Bourne shell.

-It has interactive features. It includes features like built-in arithmetic and C-like arrays, functions, and string-manipulation facilities.

-It is faster than C shell. It is compatible with script written for C shell.

2. Korn Shell

-Command full-path name is /bin/ksh,

-Non-root user default prompt is $,

-Root user default prompt is #.

3. Bourne Again Shell

-It is denoted as **bash** .

-It is compatible to the Bourne shell. It includes features from C, Korn and Bourne shell.

-This is a public domain shell written by the Free Software Foundation under their GNU initiative. Ultimately it is intended to be a full implementation of the IEEE Posix Shell and Tools specification.

-This shell is widely used within the academic community..

3. Bourne Again Shell

-Command full-path name is /bin/bash,

-Non-root user default prompt is $,

-Root user default prompt is #.

4. The C Shell

-It is denoted as **csh** .

-Bill Joy created it at the University of California at Berkeley.

-It incorporated features such as aliases and command history.

-It includes helpful programming features like built-in arithmetic and C-like expression syntax.

4. The C Shell

-Command full-path name is /bin/csh,

-Non-root user default prompt is hostname %,

-Root user default prompt is hostname #.

5. The TENEX C Shell

-It is denoted as **tcsh** .

-**tcsh** is a UNIX shell, based on (and compatible with) the C Shell.

-It is essentially the C shell with filename completion, command-line editing, and a few other features.

-The 't' in tcsh comes from the T in TENEX, an operating system which inspired the author of tcsh.

Features of shells

	Bourne	C	TC	Korn	Bash
Command history	No	Yes	Yes	Yes	Yes
Command alias	NO	Yes	Yes	Yes	Yes
Shell scripts	Yes	Yes	Yes	Yes	Yes
Filename completion	No	Yes	Yes	Yes	Yes
Command line editing	No	No	Yes	Yes	Yes
Job control	No	Yes	Yes	Yes	Yes