



Higher Diploma in Computer Science

Computer Systems & Networks



Contact Me

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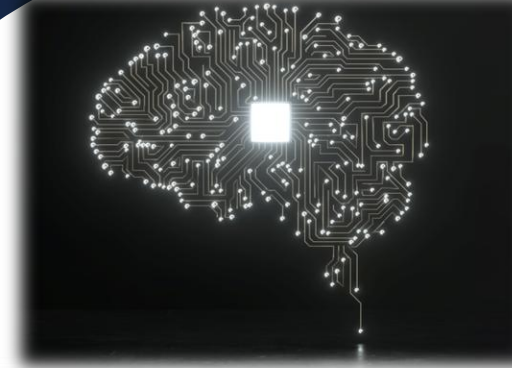


Weekly Webinar Schedule

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|-------|--|--|-----------|----------|--------|
| 10:45 | | | | | 10:45 |
| 12:15 | <div> <div>Computer Systems Webinar</div> <div>12:15-2:00</div> </div> | <div> <div>Computer Systems Webinar</div> <div>12:15-2:00</div> </div> <div> <div>Database Webinar</div> <div>2:15-2:00</div> </div> | | | 12:15 |
| 2:00 | | | | | 13:45 |

Expectations

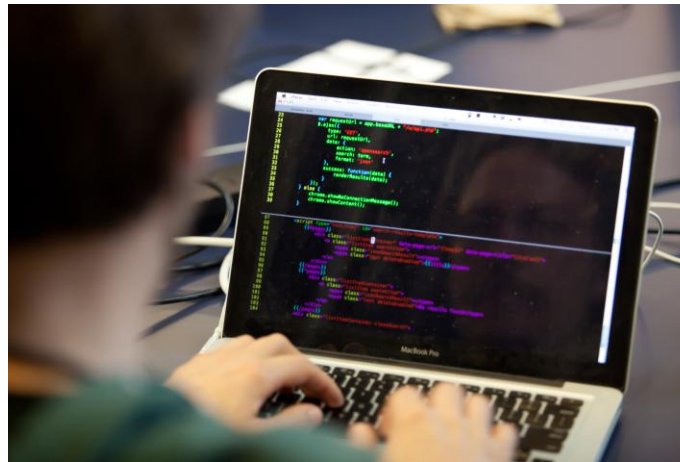
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TBCA for Caroline's Computer Systems



5% Cisco
NetAcad
chapter exams
(*due end Oct*)



25% Linux Shell scripting



5% InClass
Exercises

CA for Caroline's Computer Systems



5% Cisco
NetAcad
chapter exams
(*ongoing*)



Networking Academy

YOU SHOULD HAVE RECEIVED AN EMAIL INVITE FROM ME, SIMILAR TO:



● **Cisco Networking Academy** ☆ **Join Linux Essentials at Waterford Institute of Technolo...** Hello

Module 1 - Introduction to Linux

Chapter 1

Module 2 - Operating Systems

Chapter 2

Chapter 02 Exam

Module 3 - Working in Linux

Chapter 3

Chapter 03 Exam

Module 4 - Open Source Software and Licensing

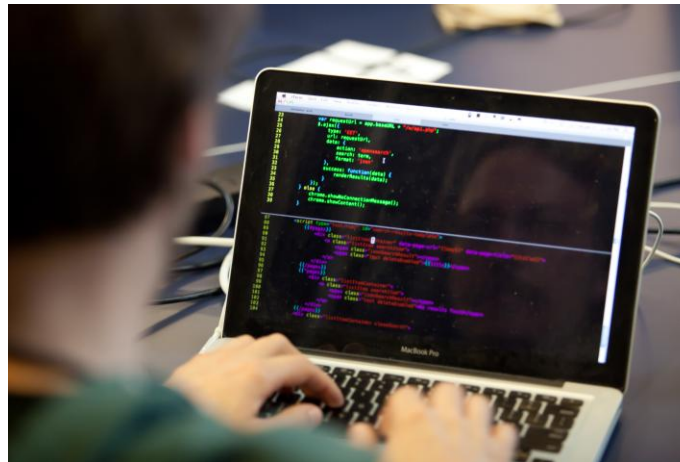
Chapter 4

Chapter 04 Exam

CA for Caroline's Computer Systems



5% Cisco NetAcad
chapter exams (*due
end Oct*)



25% Linux Shell scripting assessment
(*Given end Sept, Due END Oct '25*)

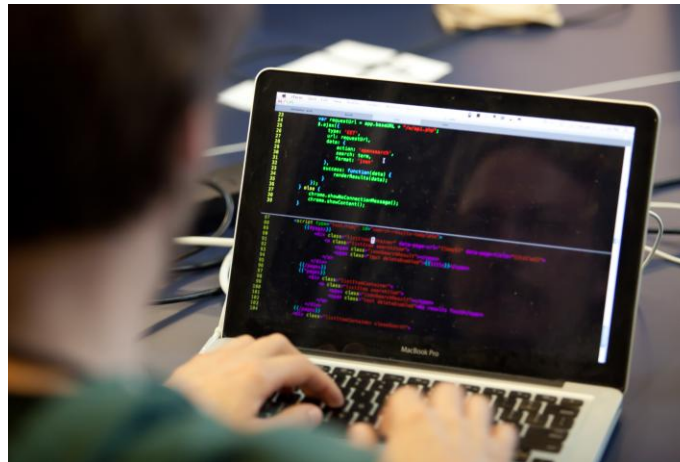


5% InClass
Exercises

CA for Caroline's Computer Systems



5% Cisco NetAcad
chapter exams (*due
end Oct*)



25% Linux Shell scripting

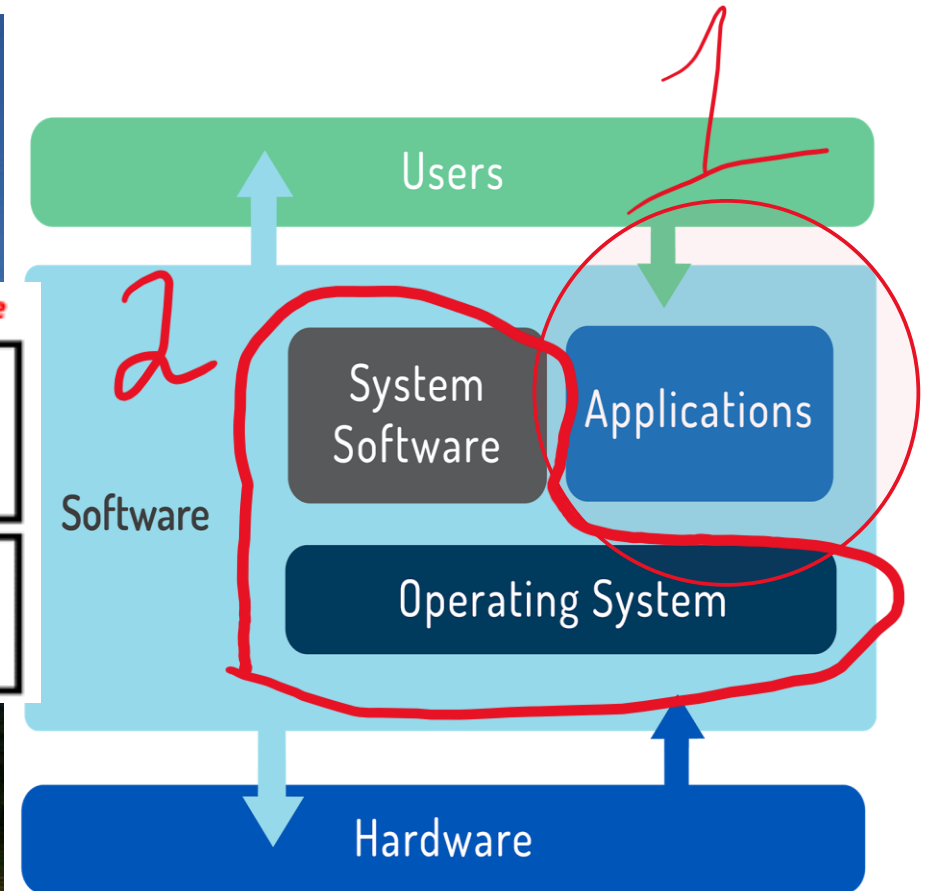
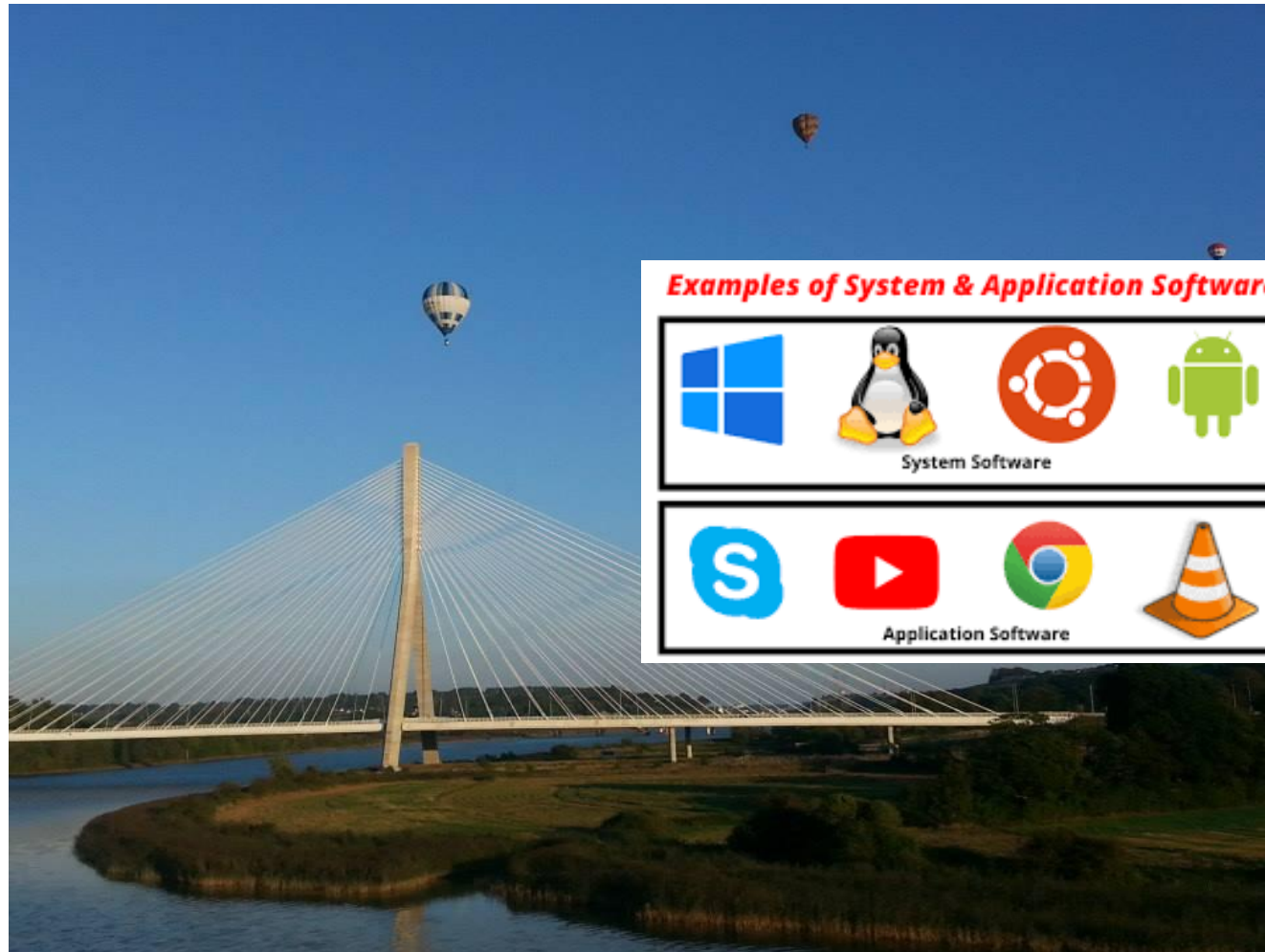


5% Classwork:
completed scripts
(during Sept)

Introduction to Operating Systems



Operating System (abbr. OS)



Decision Points when Considering which OS is best

- **Role:** Accessed by 1 user directly (desktop) or many users remotely (server)?
- **Function:** Does it need to run specific software?
- **Life Cycle:** What is the service lifetime?
- **Stability:** Are OS releases *beta* (not tested “in the wild”) or *stable* (tested)?
- **Compatibility:** Is it backwards compatible
- **Cost:** important factor for new systems

Introduction to Linux (as an OS)



Linux is Everywhere!

- Linux is everywhere, Linux jobs are everywhere, there is a shortage of Linux talent, and, Linux skills are in demand in just about every industry and job category.



Default (GPT-3.5)



why is it important to become familiar with shell scripting?



Becoming familiar with shell scripting offers several important benefits, especially for individuals working in IT, software development, data analysis, and system administration. Here are some reasons why it's important to learn shell scripting:

Linux is Open Source

- The development of Linux closely parallels the rise of *open source software*.
- The open source philosophy is that

You have a right to obtain the software **source code** and

You have a right to **modify** it for your own use.

Linux is around a long time

- Linux started in 1991 as a hobby project by Linus Torvalds, a Finnish born computer scientist studying at the University of Helsinki.



Linux is a Kernel

- Linux means the *kernel* of the system, which is the central controller of everything that happens on the computer.
- Linux is a combination of software called **GNU/Linux**, which defines the *operating system*.
 - **GNU** is the *free software* that provides open source equivalents of many common UNIX commands.
 - The **Linux** part of this combination is the *Linux kernel*, which is the core of the operating system.

Linux Embraces the CLI

Two basic types of interfaces available that allow you to interact with the operating system



Linux Distros

A distribution refers to the Linux kernel, tools, and suite of applications that come bundled together.

Linux distros refer to an OS composed of open-source programs designed by numerous developers and programmers.



Lubuntu = Lightweight Ubuntu

- Ubuntu is one of the popular Linux distributions available for desktops and laptops
 - A new version of Ubuntu is released every April and October.
 - There's a thriving Ubuntu community online
-
- Refer back to our [May '24 onsite Prep Lab](#)

~~Linux~~ YOU Embrace the CLI

-
- Enter the Command

\$cal

- to view the built in calendar.

```
compsys@compsys-virtualbox:~$ cal
      August 2023
Su Mo Tu We Th Fr Sa
    1  2  3  4  5
 6  7  8  9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
```

```
compsys@compsys-virtualbox:~$ cal
Command 'cal' not found, but can be installed with:
sudo apt install ncal
```

\$sudo apt install <<program>>

```
compsys@compsys-virtualbox:~$ cal sept 2024
    September 2024
Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7
 8  9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30
```

```
$sudo apt update
```

Use this command to update the package database any time

~~Linux~~ YOU Embrace the CLI

- Try look up the current weather in Kilkenny using

`$ansiweather -l your_town_name`

```
compsys@compsys-virtualbox:~$ ansiweather -l kilkenny  
Weather in Kilkenny: 18 °C - UVI: 5.32 - Wind: 4.02 m/s WNW - Humidity: 75% - Pressure: 1016 hPa
```

Be familiar with the help **manual** available

What does the `-l` stand for in the command line instruction

```
$ansiweather -l kilkenny
```



~~Linux~~ YOU Embrace the CLI

- Uninstall ansiweather

\$sudo apt-get remove *program-name*

~~Linux~~ YOU Embrace the CLI

- Try out:

```
$cowsay Well hello there September!
```

Do you need to install it?

- Once finished, **uninstall**

Don't like cows??

```
$cowsay -l
```

```
$cowsay -f turkey Almost 100 days to Christmas, gobble!
```

These are examples of optional arguments that many CLI commands accept

~~Linux~~ YOU Embrace the CLI

- Try out:

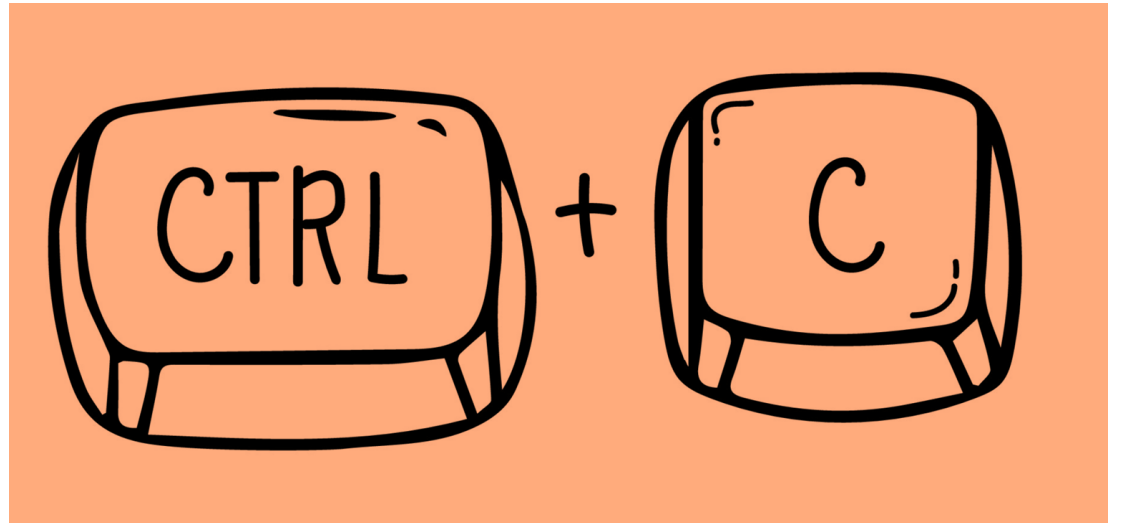
\$cmatrix

Now

\$figlet Lets go

And finally, what happens here
Why?

\$figlet Let's go



Try out this
weeks Lab

