

RECORDING



Wake up, Neo!

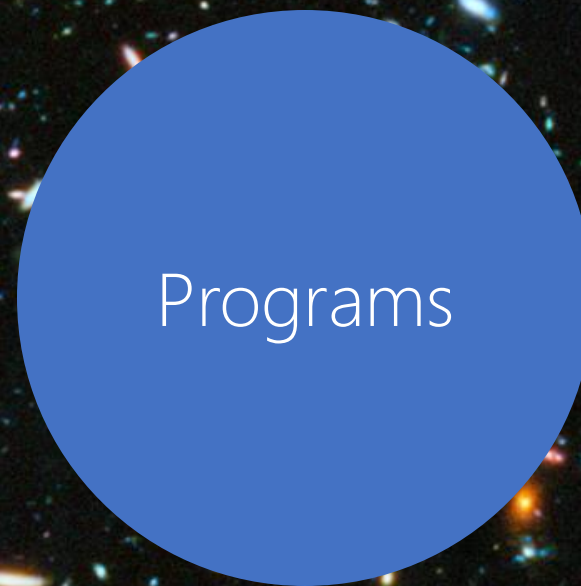
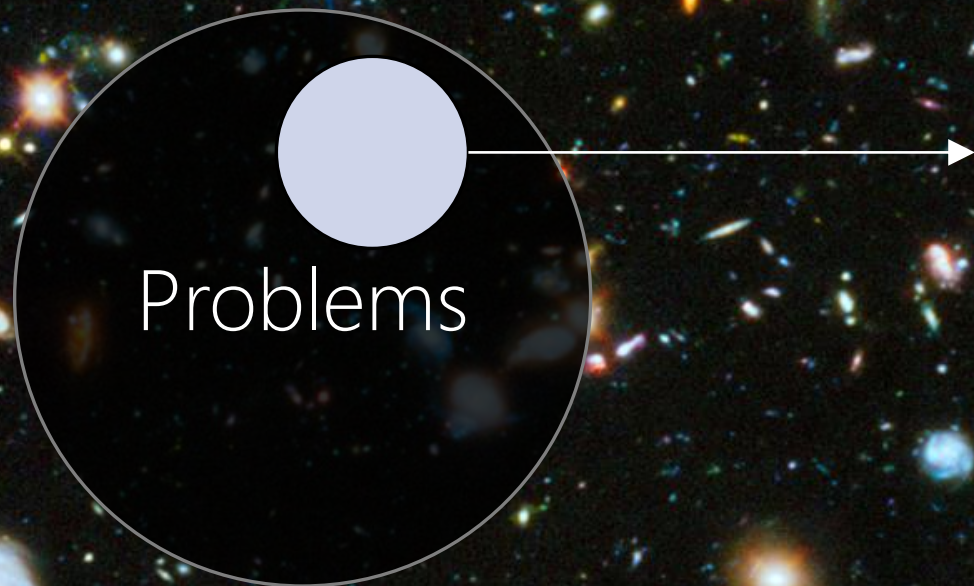
- The Matrix (1999), Lana & Lilly Wachowski

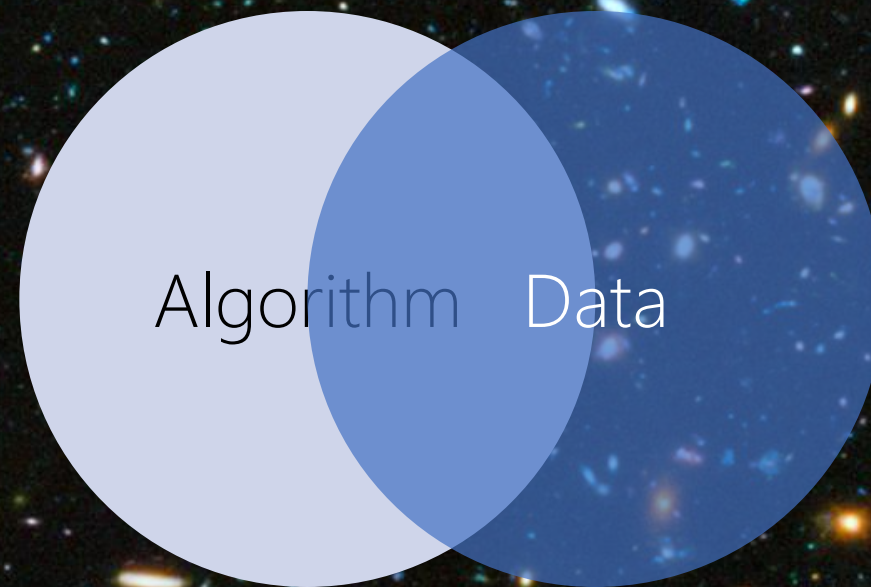
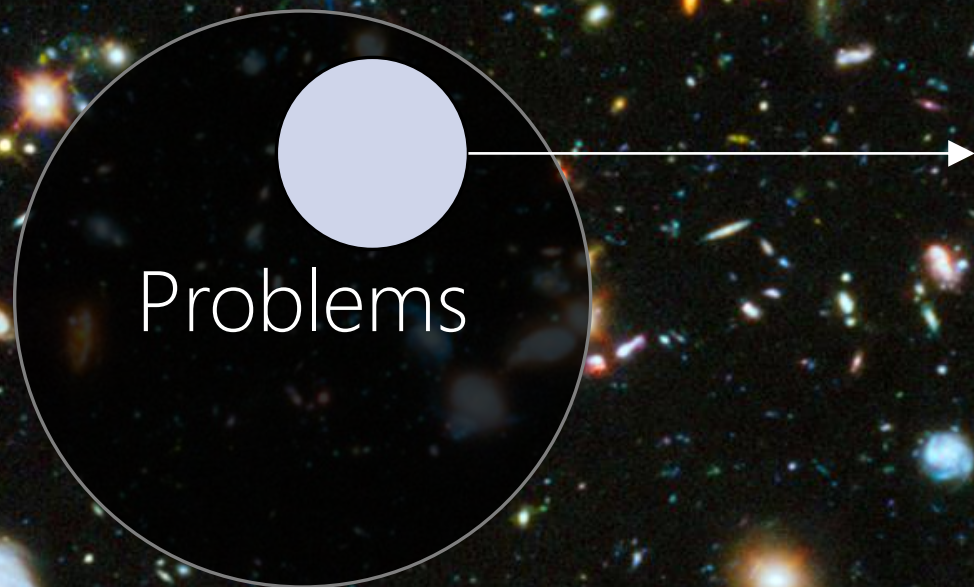
wake up, Neo...

The background is a deep space photograph showing a dense field of galaxies in various colors (blue, orange, white) against a black sky. Overlaid on this is a diagram consisting of a large black circle with a smaller light blue circle inside it. The word 'Problems' is written in white inside the large circle. A line connects the top of the light blue circle to a list of computer science topics on the right.

Problems

Computable
Theory of Automata
Theory of Computation
Theory of Computer Science





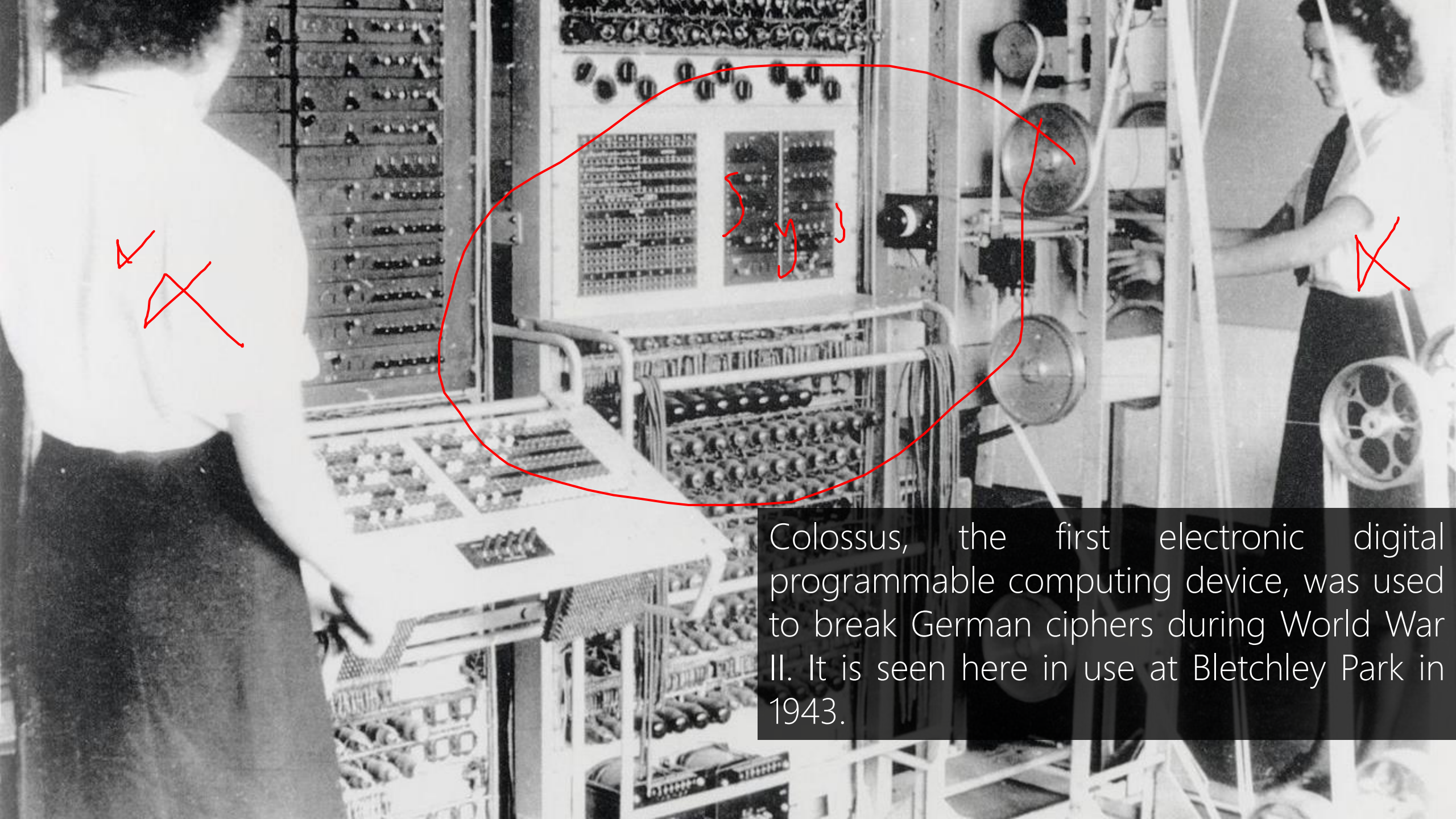
Algorithm Design
Algorithm Analysis
Artificial Intelligence (AI)
Machine Learning
Data Mining

Data Structure
File Structure
Database Management Sys.
Data Warehouse
Big Data
Cloud

Algo Data

Machine

Digital Design (Logic Circuits)
Computer Architecture
Assembly Language
Operating Systems



Colossus, the first electronic digital programmable computing device, was used to break German ciphers during World War II. It is seen here in use at Bletchley Park in 1943.



Dennis MacAlistair Ritchie
Kenneth Lane Thompson
AT&T Bell Lab, 1972, GE 645



Operating System

A program for programs!
System-level Program



UNIX

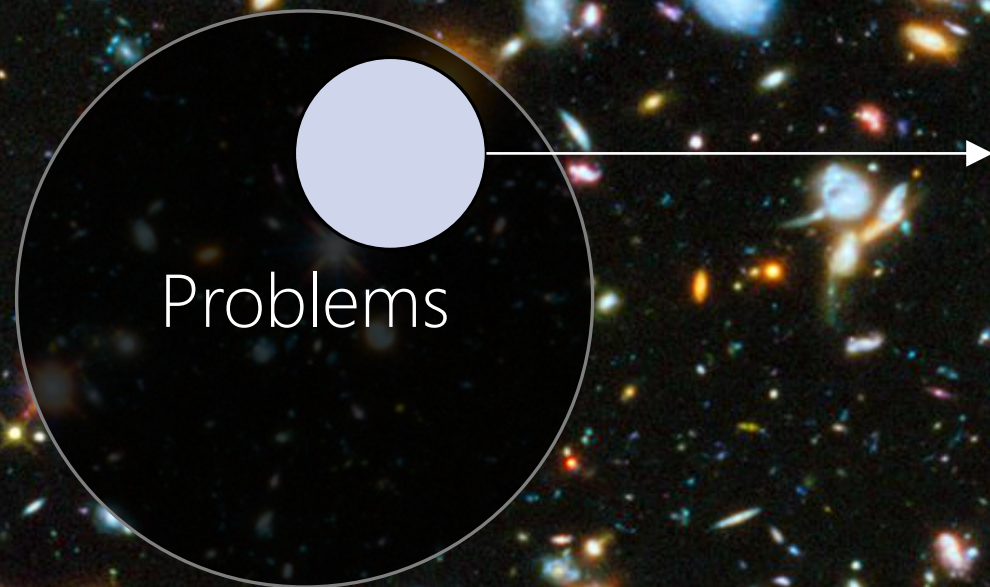
1969 in Assembly



C for UNIX

A red circle is drawn around the letter 'C'. A red arrow points from the bottom of the circle to the underlined word 'UNIX'.

System-level Programming



C Programming Language
Application-level

~~UNIX~~
~~C Programming Language~~
~~System level~~

Machine



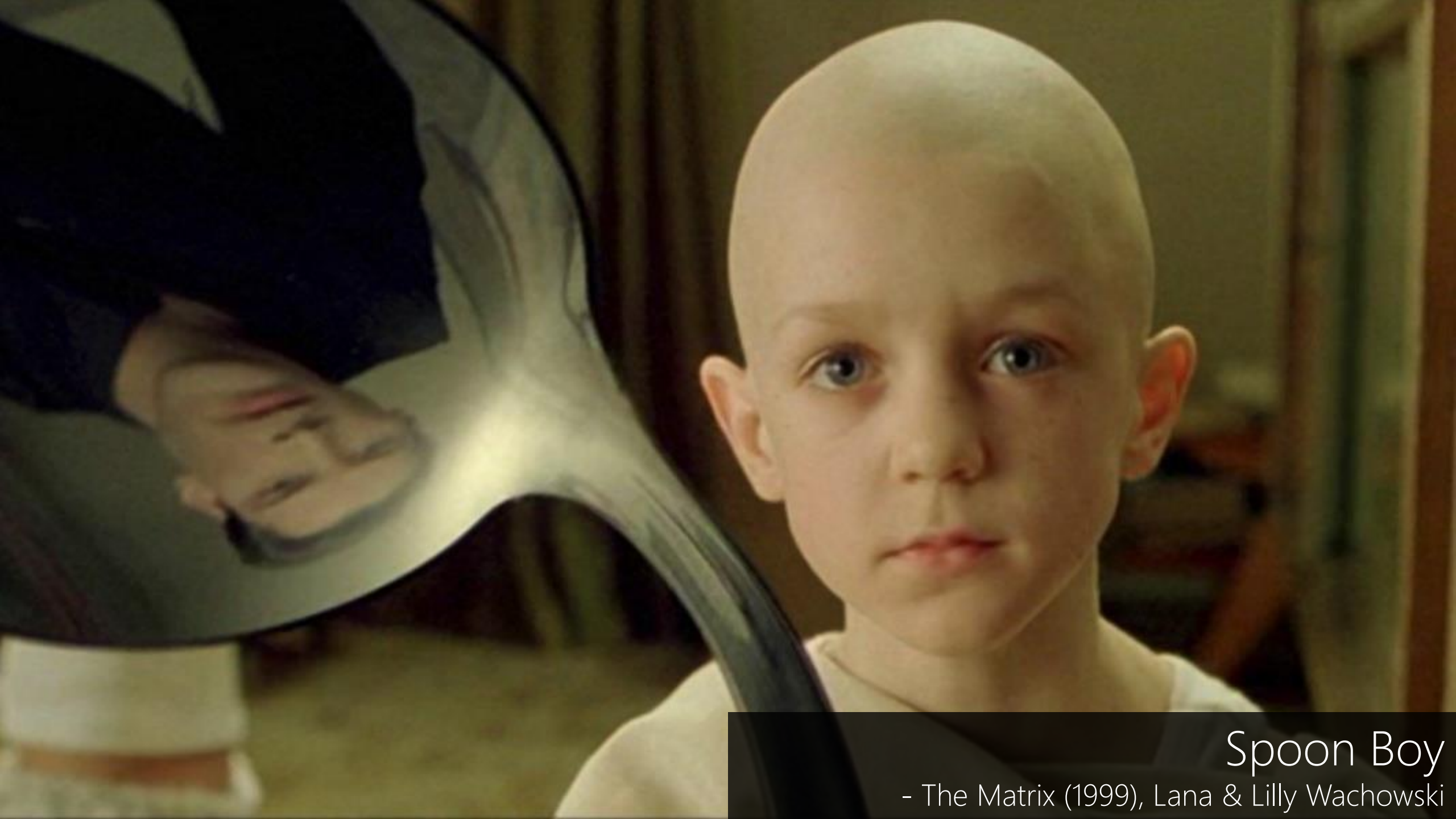
System-level Programming

*We want to know how **UNIX** execute our program!*

A cosmic background image featuring a dense field of galaxies and stars. The galaxies are in various stages of evolution, appearing as bright, colorful clouds of gas and dust in shades of blue, orange, and white. The stars are small, bright points of light scattered across the dark space. Two horizontal red lines are positioned above and below the main title.


System-level Programing

Why?



Spoon Boy

- The Matrix (1999), Lana & Lilly Wachowski

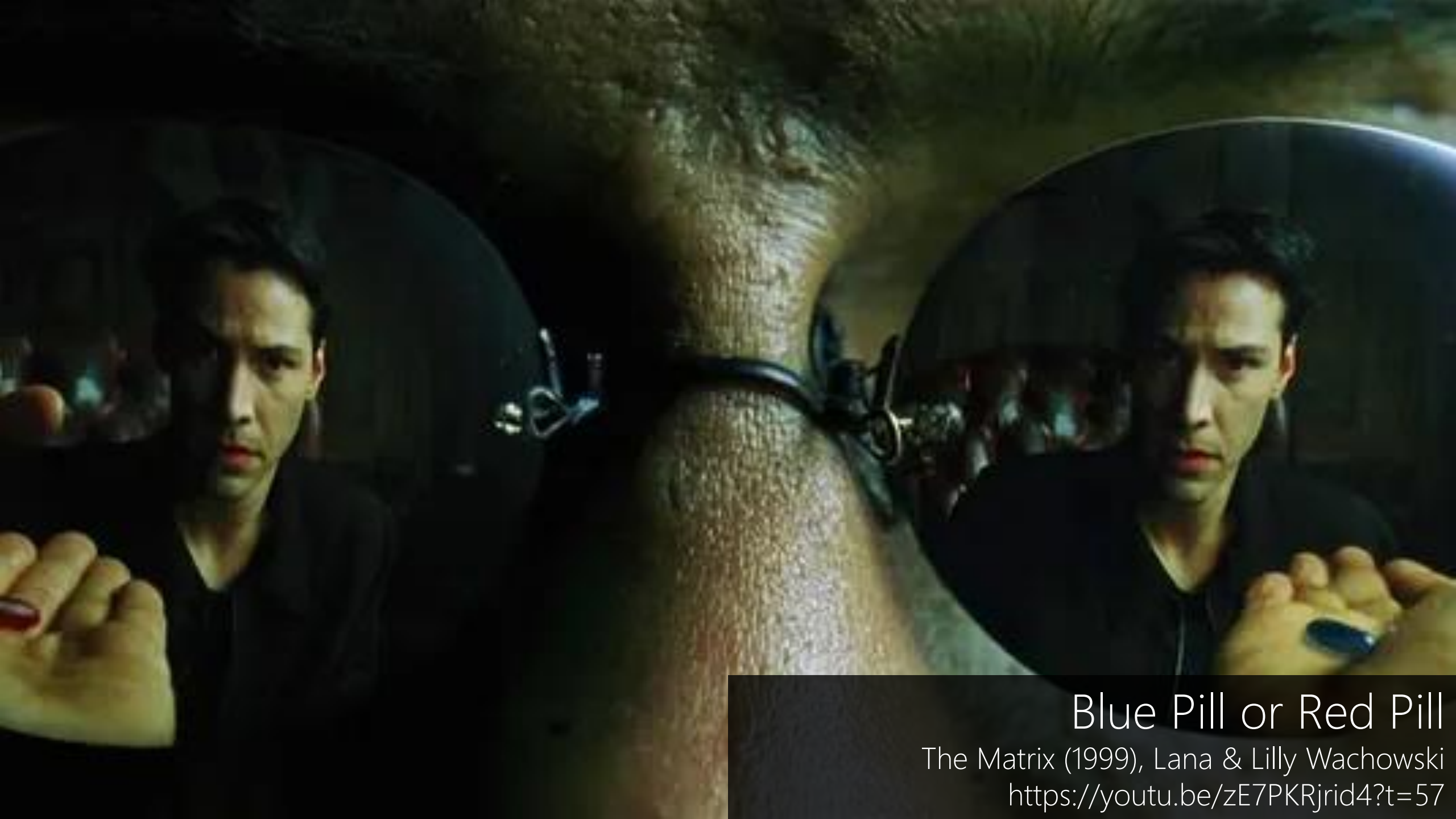


What is
UNIX?



What is Matrix?

The Matrix (1999), Lana & Lilly Wachowski
<https://www.youtube.com/watch?v=zE7PKRjrid4>



Blue Pill or Red Pill

The Matrix (1999), Lana & Lilly Wachowski

<https://youtu.be/zE7PKRjrid4?t=57>

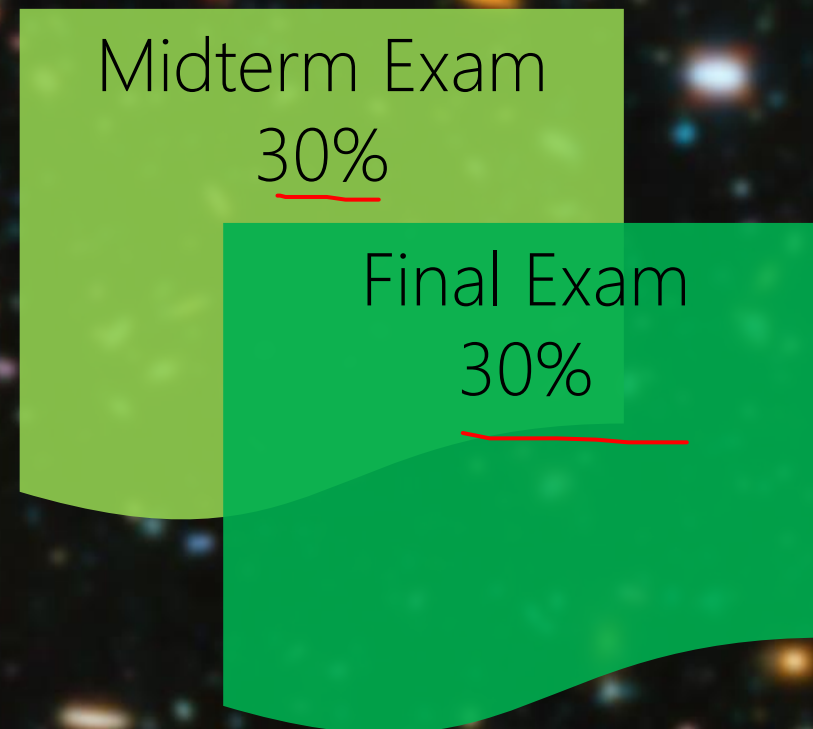
Follow the white rabbit.

Follow the White Rabbit
- The Matrix (1999), Lana & Lilly Wachowski

Grand Défi (Big Challenge), Bronze, 175x145x130cm, Nicolas LAVARENNE
<https://www.artseiller.com/en/nicolas-lavarenne-en>



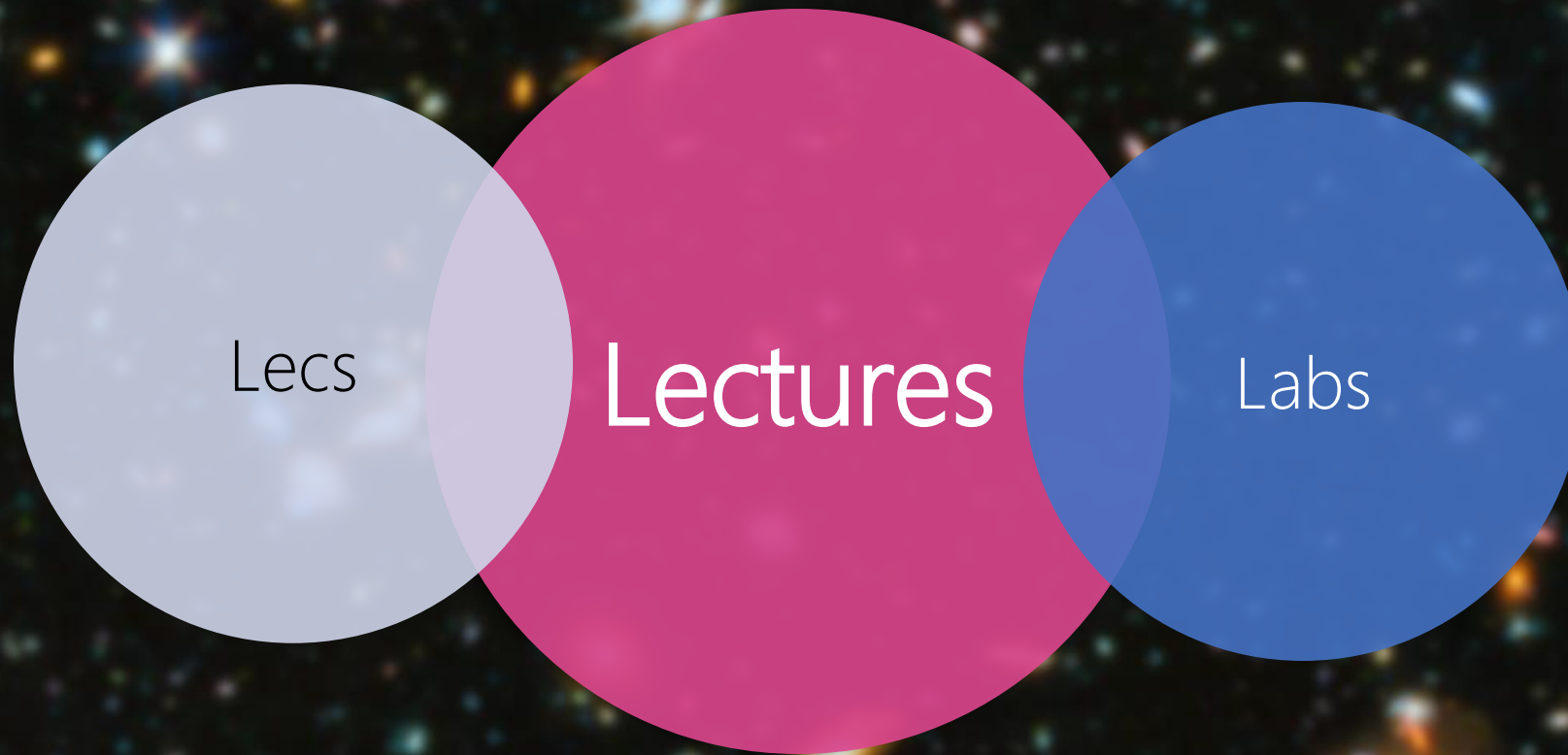
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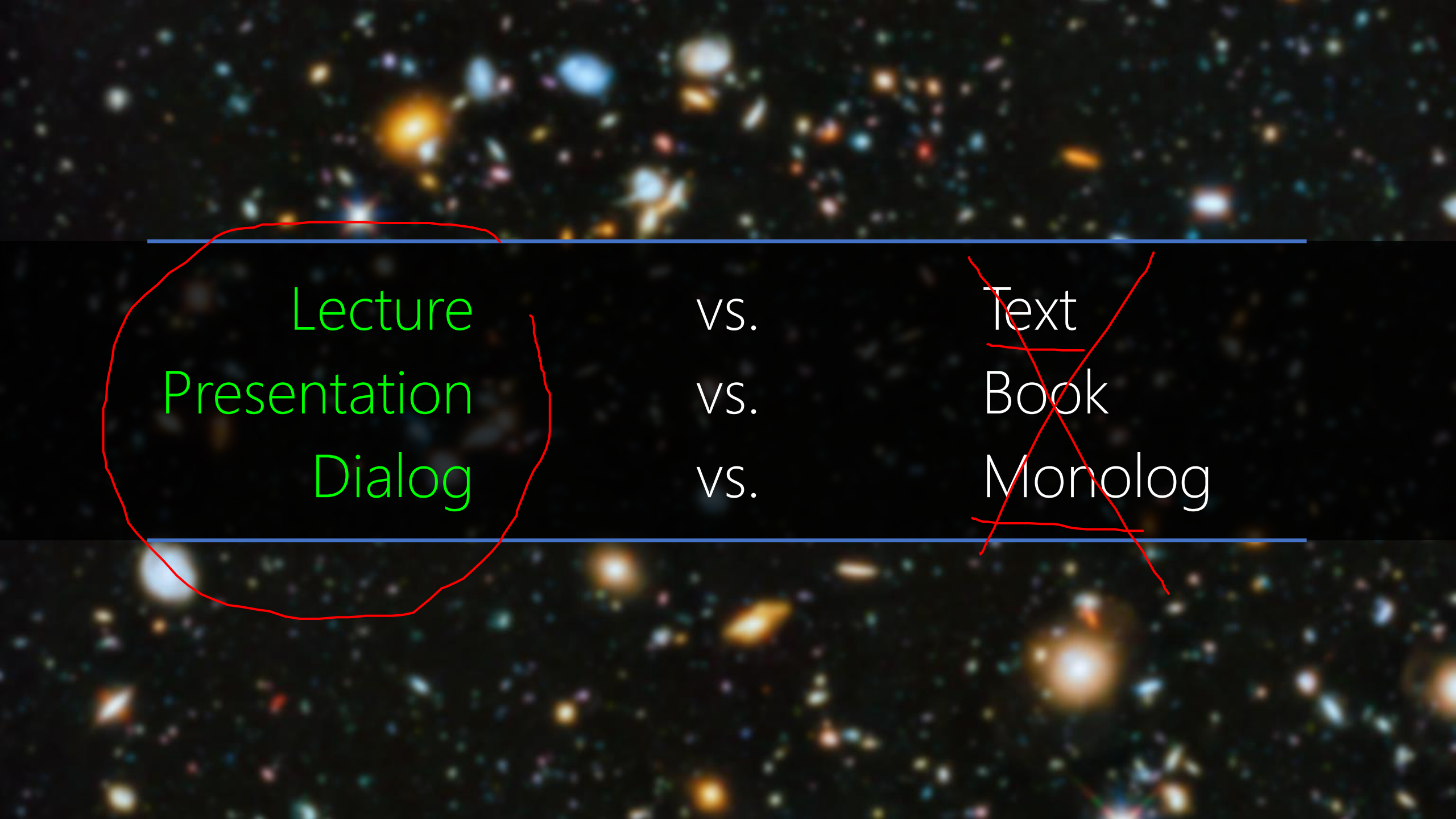
- Keys to the exams.
- No programming questions. Finding the semantic errors of given programs.

Midterm Exam
30%

Final Exam
30%



Some topics are not covered in the lecture, but either in Labs or Lecs



Lecture
Presentation
Dialog

vs.

vs.

vs.

~~Text~~

~~Book~~

~~Monolog~~

To Risk

To laugh is to risk appearing a fool

To weep is to risk appearing sentimental

To reach out to another is to risk involvement

To expose feelings is to risk exposing your true self

To place your ideas and dreams before a crowd is to risk their loss

To love is to risk not being loved in return

To hope is to risk despair

To try is to risk to failure

But risks must be taken because the greatest hazard in life is to risk nothing.

The person who risks nothing, does nothing, has nothing, is nothing.

He may avoid suffering and sorrow,

But he cannot learn, feel, change, grow or live.

Chained by his servitude he is a slave who has forfeited all freedom.

Only a person who risks is free.

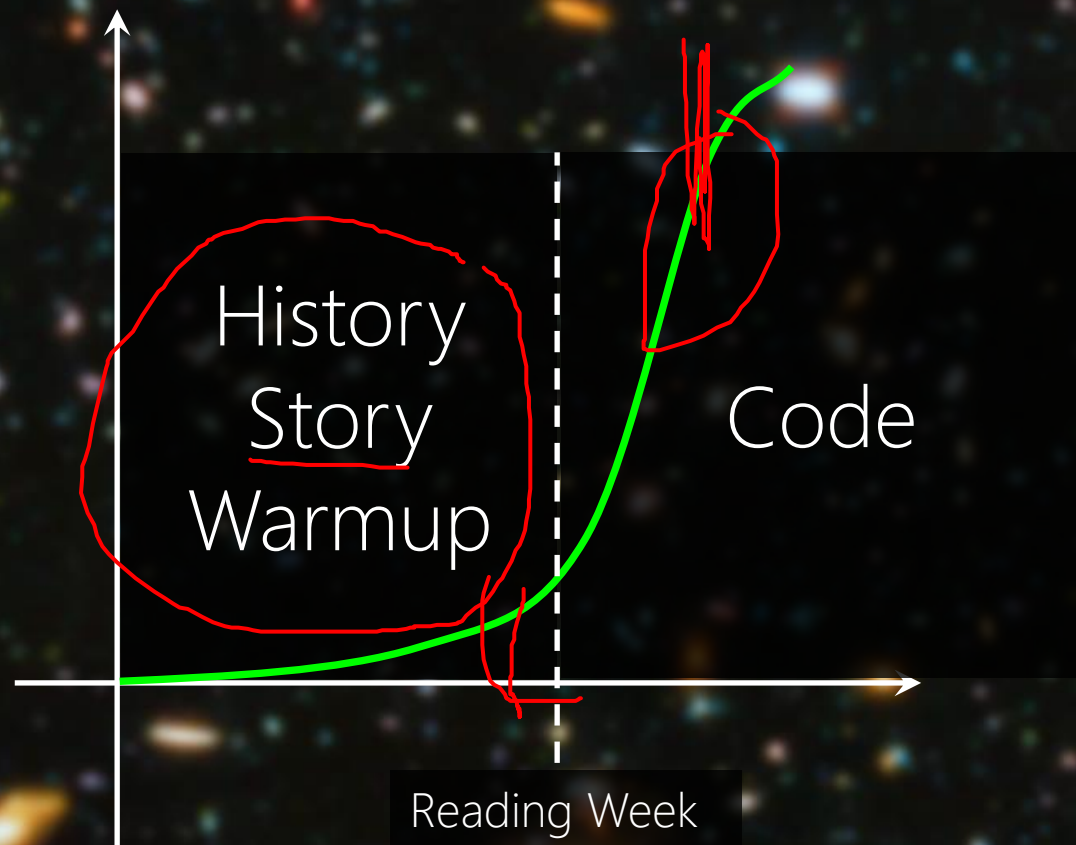
-- Attributed to several authors including William Arthur Ward




- Take the plunge! Start coding in C
- Labs may have dependencies!
- No key to the labs.
- Key to the Lecs based on highest selected questions
- Lab# == Week#

lec#

Workload

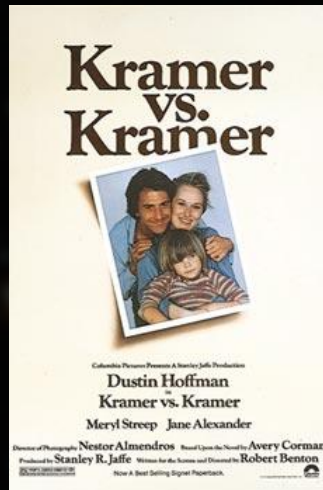


A line of people in graduation gowns, some with robotic faces, from the Pink Floyd video 'Another Brick in the Wall'. The scene is set outdoors with a brick wall in the background. The people are wearing black gowns with white and red stoles. Some have human faces, while others have prosthetic robotic faces. They are standing in a line, looking forward.

Pink Floyd - Another Brick In The Wall (1979)

<https://www.youtube.com/watch?v=YR5ApYxkU-U>

Are robots becoming more human or humans becoming more robotic?



Googler vs. Googler

Googler: A Person Who Builds Google

Googler: A Person Who Works for Google

Googler: A Person Who Uses Google

Operating System Developer
Operating System Administrator
Operating System Professional User (this course)
Operating System End User



Brian Jhan Fox



Linus Torvalds

A cosmic background image featuring a dense field of galaxies and stars. The galaxies are in various colors, including blue, orange, and white, against a dark, star-filled sky. Two horizontal red lines are positioned above and below the central text.

ATTENDANCE

Optional: Lectures, Labs, ..., Use Your time Wisely!

The background of the slide is a deep space image showing a vast field of galaxies. These galaxies appear as bright, colorful spots in various shapes and sizes, including spirals, ellipticals, and irregular forms, set against a dark, star-filled sky. A thin, solid red horizontal line runs across the middle of the image, positioned just above the title text.

BLACKBOARD TOUR

A cosmic background image featuring a dense field of galaxies and stars against a black sky. The galaxies are in various colors, including blue, orange, and white, and are scattered across the frame. Two horizontal red lines are positioned above and below the main text.

LEARNING OUTCOME

aka. Learning Objectives

The background of the slide is a deep space image showing a vast field of galaxies and stars. The galaxies are in various shapes and sizes, some appearing as bright, fuzzy clouds of light, while others are more distant and smaller. The colors range from bright yellow and orange to deep blues and purples, set against a black background. Two thin, horizontal red lines are positioned above and below the main text, spanning most of the width of the slide.

COURSE OUTLINE

aka. Course Syllabus

The background of the entire slide is a deep space image filled with numerous galaxies and stars. The galaxies are in various stages of evolution, some appearing as bright, dense clusters and others as more diffuse, elongated structures. The colors range from bright yellow and orange to deep blues and purples, set against a black void. Two thin, horizontal red lines are positioned above and below the main title text.

LABORATORY GUIDE

aka. Lab Manual

The background of the entire image is a deep space photograph showing a vast field of galaxies in various colors (yellow, orange, blue, white) against a black sky. A solid red horizontal line runs across the middle of the image, passing behind the text.

LABROOM

aka. Laboratory

A cosmic background image featuring a dense field of galaxies and stars. The galaxies are in various stages of evolution, with some appearing as bright, yellowish-white elliptical shapes and others as more complex, blue-tinted structures. The stars are small, distant points of light in various colors. Two horizontal red lines are positioned above and below the text.

DISCUSSION BOARD

+ Bonus 5%

A cosmic background image featuring a dense field of galaxies in various colors (yellow, orange, blue, white) against a black space. A thin red horizontal line is positioned above the word 'OFFICE'.

OFFICE

Right After the Lectures

5111 Lambton Tower

Monday – Wednesday 11:30 AM – 12:30 PM

A cosmic background image featuring a dense field of galaxies in various colors (yellow, orange, blue, white) against a black space. A thin red horizontal line is positioned below the text.



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