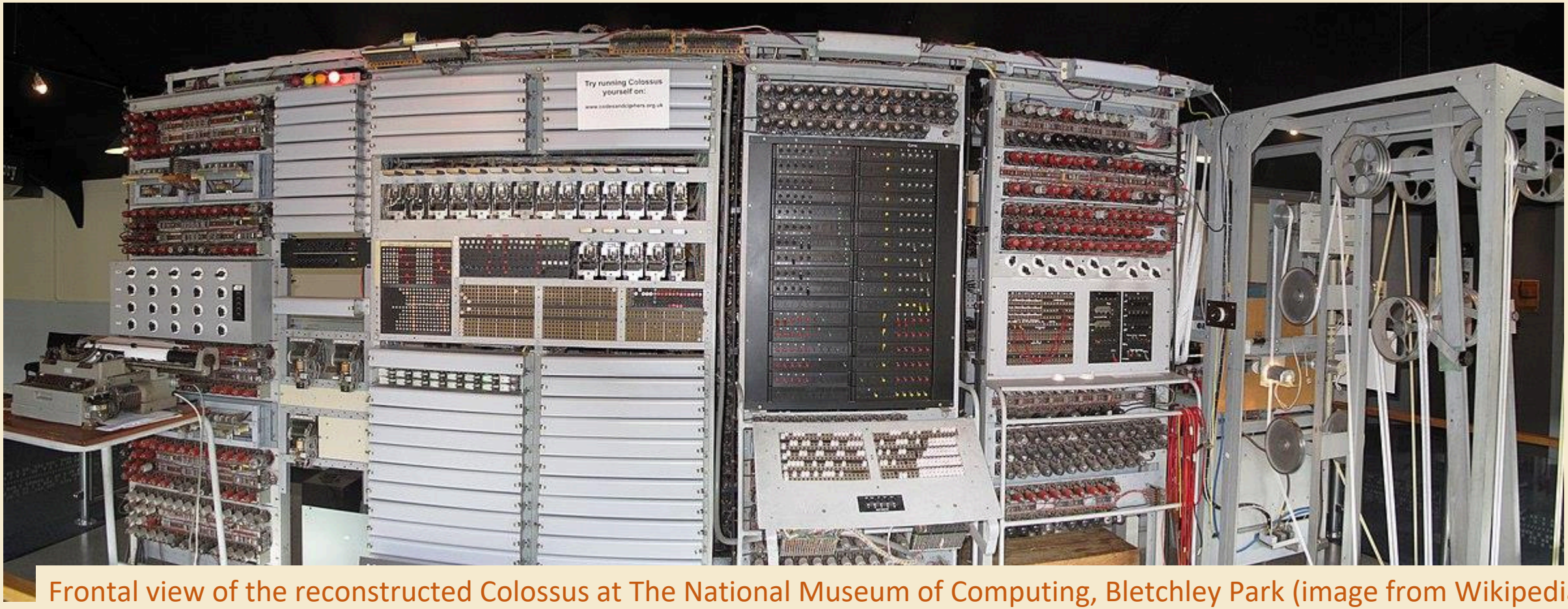
Introduction

2567/2024

First era

- No OS(computer before 1956)



Frontal view of the reconstructed Colossus at The National Museum of Computing, Bletchley Park (image from Wikipedia)

Next Era

[The concepts of OS started in 1956 at GM research lab.]

In this picture:

- DEC PDP-10
  - 1966-1983
  - OS: TOPS-10
    - Timesharing /Total Operating System-10

Image from: https://www.christies.com/stories/gen-one-paul-allen-history-of-technology-ef080682a70e4a97a53864b475333b12

A Brief History of OS

Early Operating Systems:

Computers were very expensive

(1956 – 1960s)

- One application at a time
  - Had complete control of hardware
  - OS was runtime library
  - Users would stand in line to use the computer
- Batch systems
  - Keep CPU busy by having a queue of jobs
  - OS would load next job while current one runs
  - Users would submit jobs, and wait, and wait, and

Time-Sharing Operating Systems:
Computers and People were Expensive (1960s – 1970s)

- ~1959 Integrated circuit was introduced
  - Computing power was increased

- Multiple users on computer at same time
  - Multiprogramming: run multiple programs at same time
  - Interactive performance: try to complete everyone's tasks quickly
  - As computers became cheaper, more important to optimize for user time, not computer time

Today's Operating Systems: Computers are cheap (1980 – today)

- Smartphones
- Embedded systems
- Laptops
- Tablets
- Virtual machines
- Data center servers

Tomorrow's Operating Systems

- Giant-scale data centers
- Increasing numbers of processors per computer
- Increasing numbers of computers per user

Very large scale storage

Activity#1 - (10 minutes)

- In the opinion of students, what are the main roles of an operating system?

Activity #2 – (10 minutes)

- What is an Operating Systems?

Activity#3 –(10 minutes)

- If you were to evaluate any operating system, what aspects should you assess, and how should each aspect be

  measured?