①

Computer Architecture

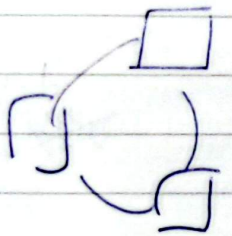
Chapter 1

Introduction

Pre-request
Digital design
logical Gates

This is the Comp archit

Components of the PC and it's connections



High level language	Low level language
ex C MATLAB Python .Net	Computer Hardware ex Register

assembly language

②

Buses
- address Bus
- Contral Bus.

مميزات الباص
1. quality
2. Speed
3. Full Control (to talk directly with Hardware)

assembly language
ex make a drive

③ Programming Model) ***

(Architecture PC) هاد الـ architecture

Low-level language) ***
(Assembly Language)

ex Real time.
* apps
* Drive

ex looping

Architecture VS organization

PC	PC
- Instruction set (for each processor)	Control Signal interfaces I/O
- no, of bits used for data representation ex integer, Float ---	memory technology
- I/O mechanism	

- addressing techniques
ex how to access RAM to take location in I/O

EX IS There Multiply instruction?

EX Is there Multiply unit or it done by repeated addition?

EX

- Intel X86

- IBM System/370

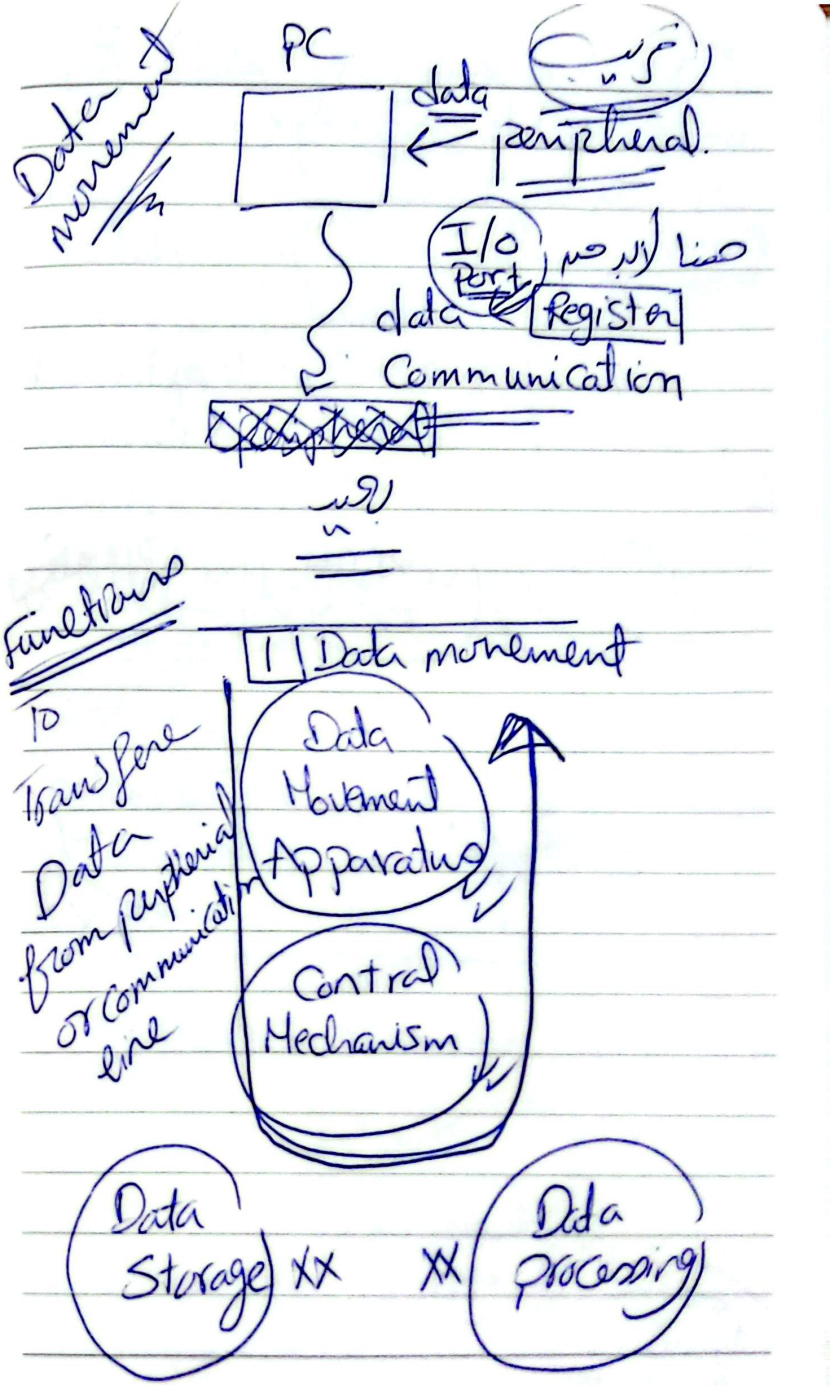
each has it own basic architecture

While the organization of Intel and IBM differs from version to another.

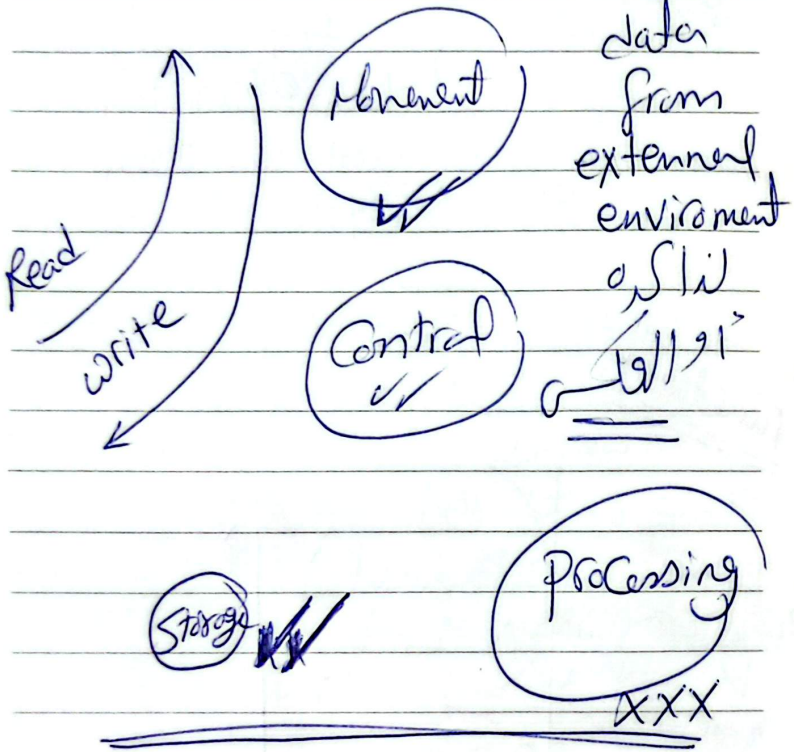
Function

all computer Function are

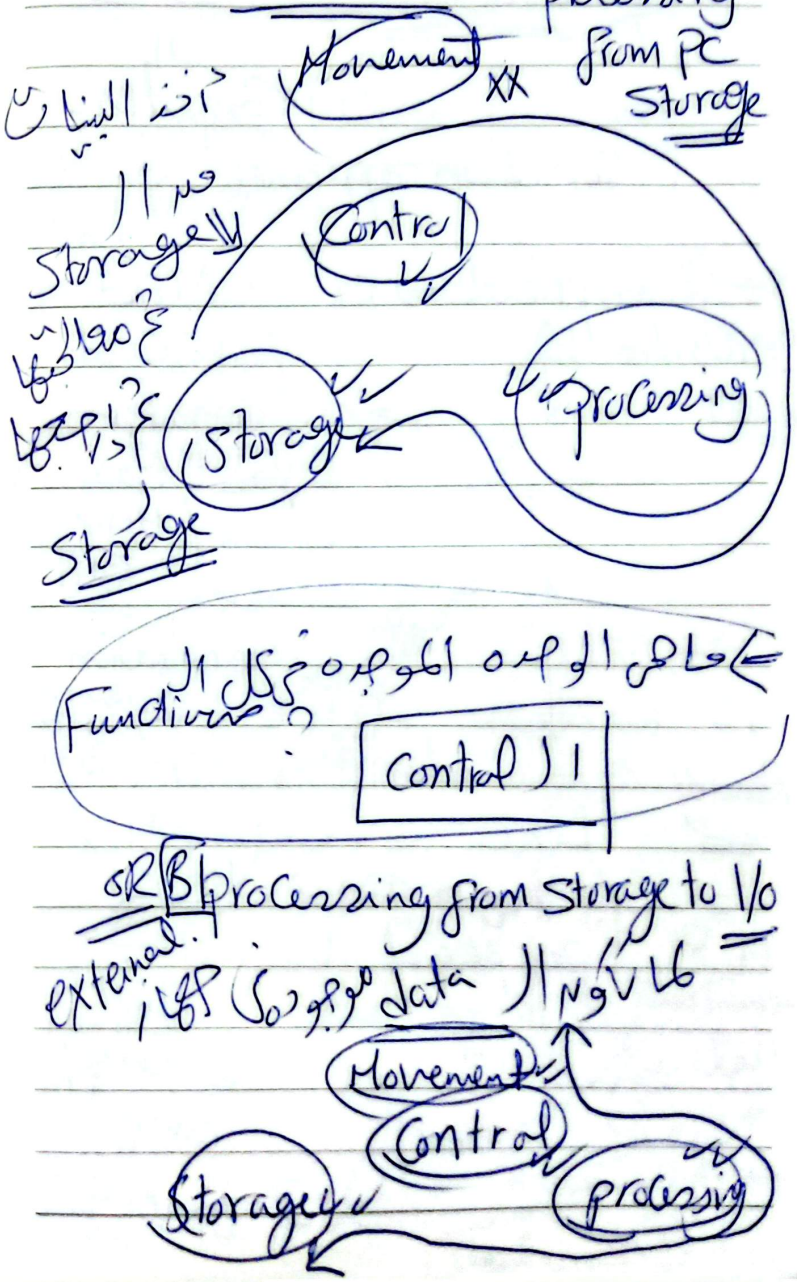
1. Data processing
2. Data storage
3. Data movement
4. Control



[2] Data Storage



[3] Data Processing [A]

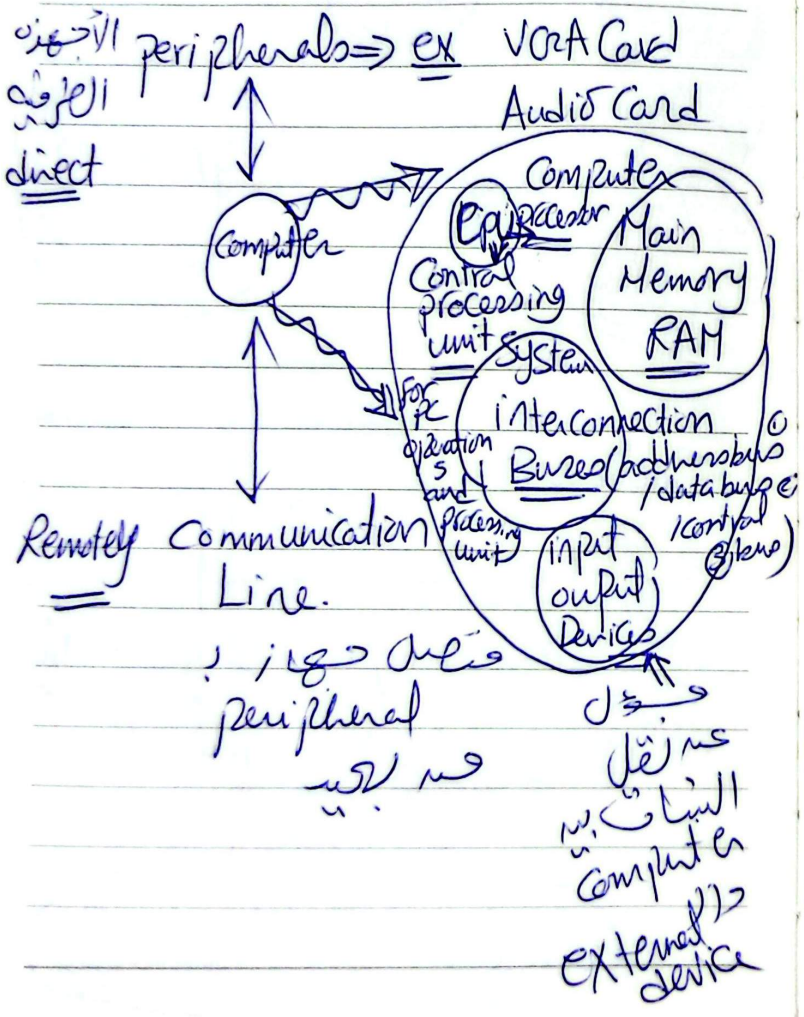


Lecture ②

Computer Structure

نتعرف إزاي الـ Computer.

Top down approach.



Cpu Structure



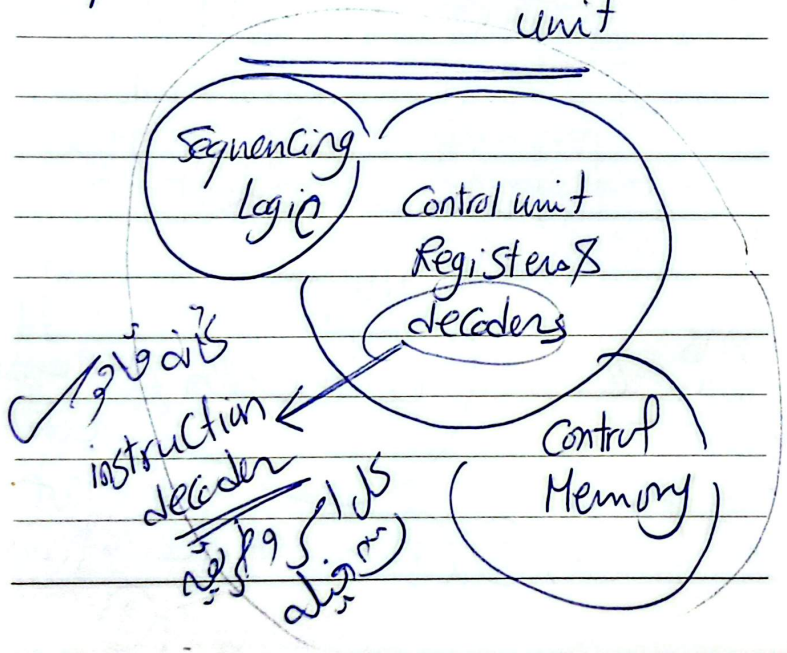
③ Control unit

وحده التحكم

هي التي تشغل الـ instructions وتعمل لتنسيق بين باقي الوحدات

هي جزء التحكم في كل operations الـ Computer

✱ Structure Control unit



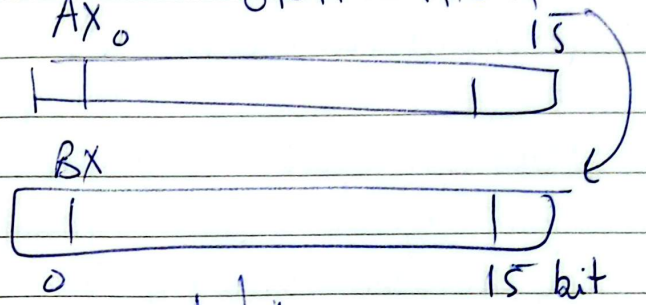
instruction in assembly

ex mov AX, BX

يأخذ محتوى AX ويضعه في BX

Register Register

0101100111011



هم يعمل هذه الأوامر

instructional decorder

Top - down Approach

~~✱✱~~ time most important questions

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