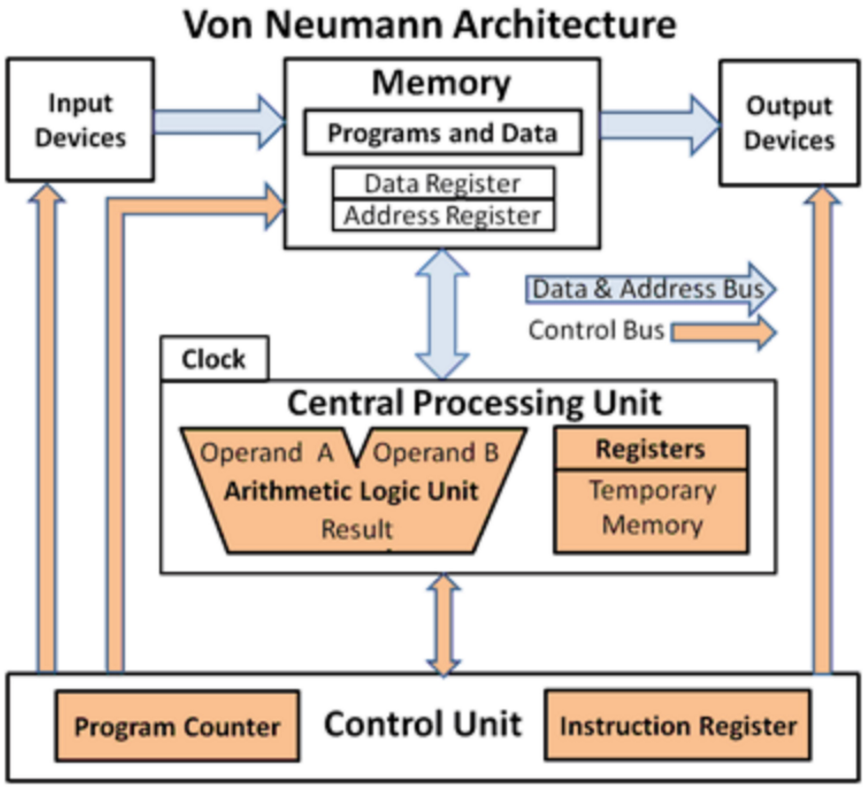
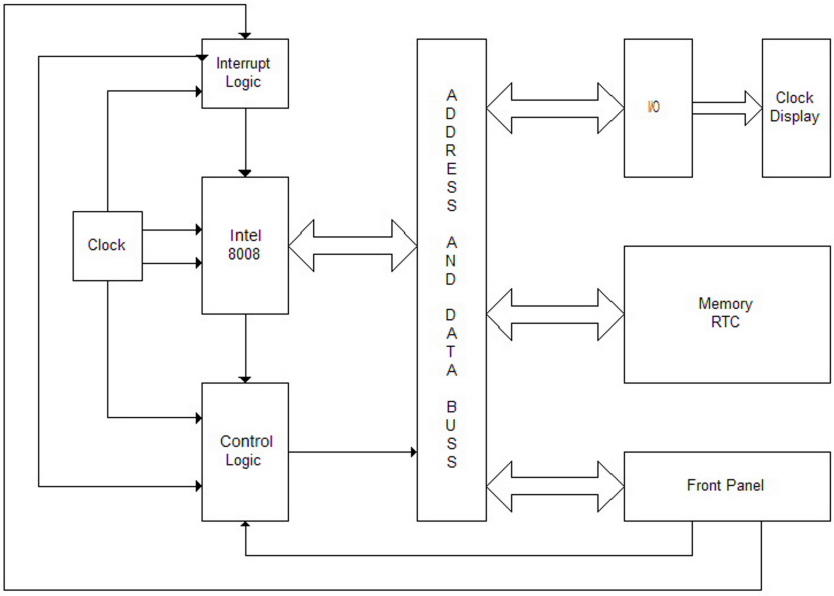
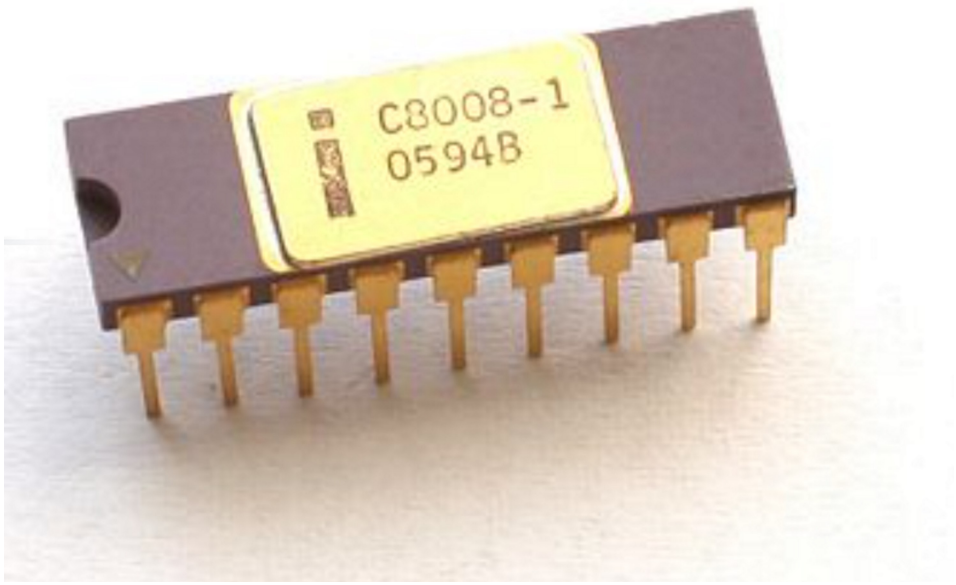
W0

Thursday, October 15, 2020 1:53 PM

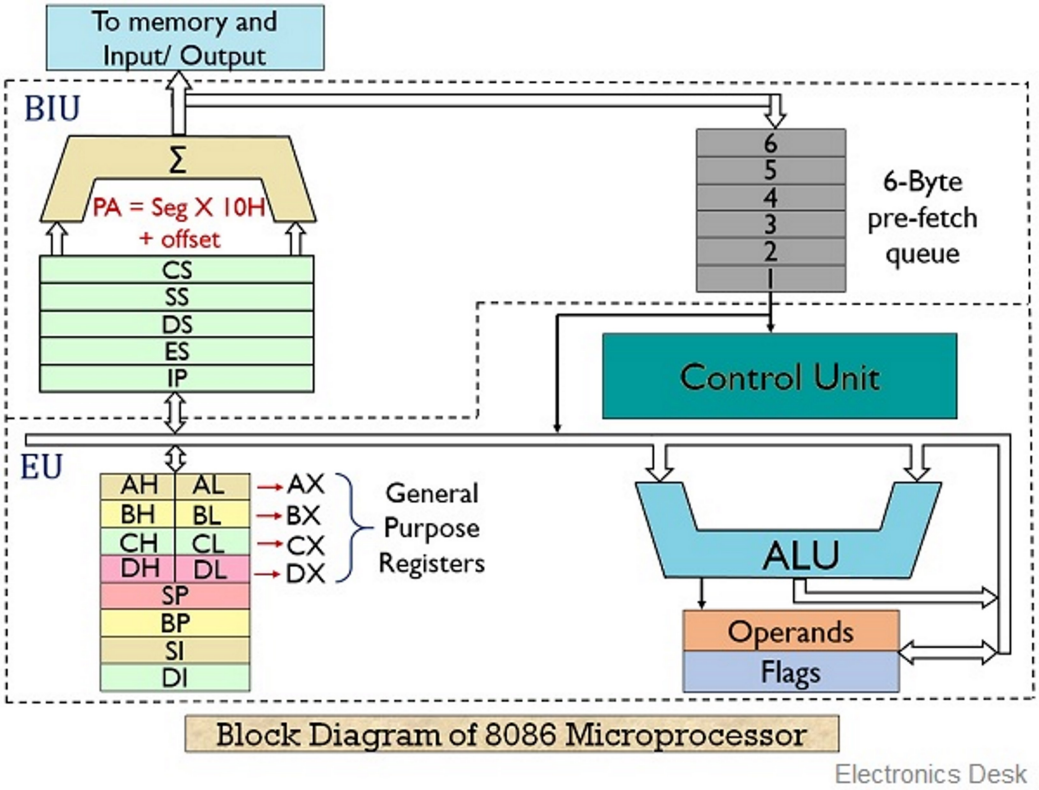


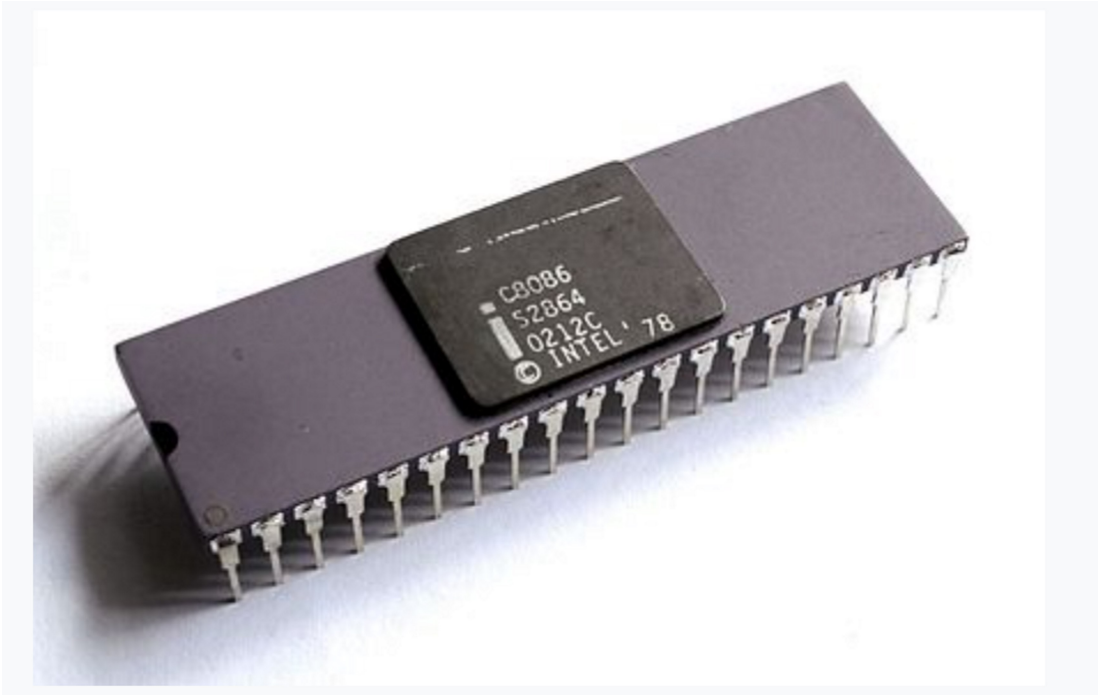
Address: 14 bits
Data: 8 bits
Max. CPU clock rate 200 kHz to 800 kHz



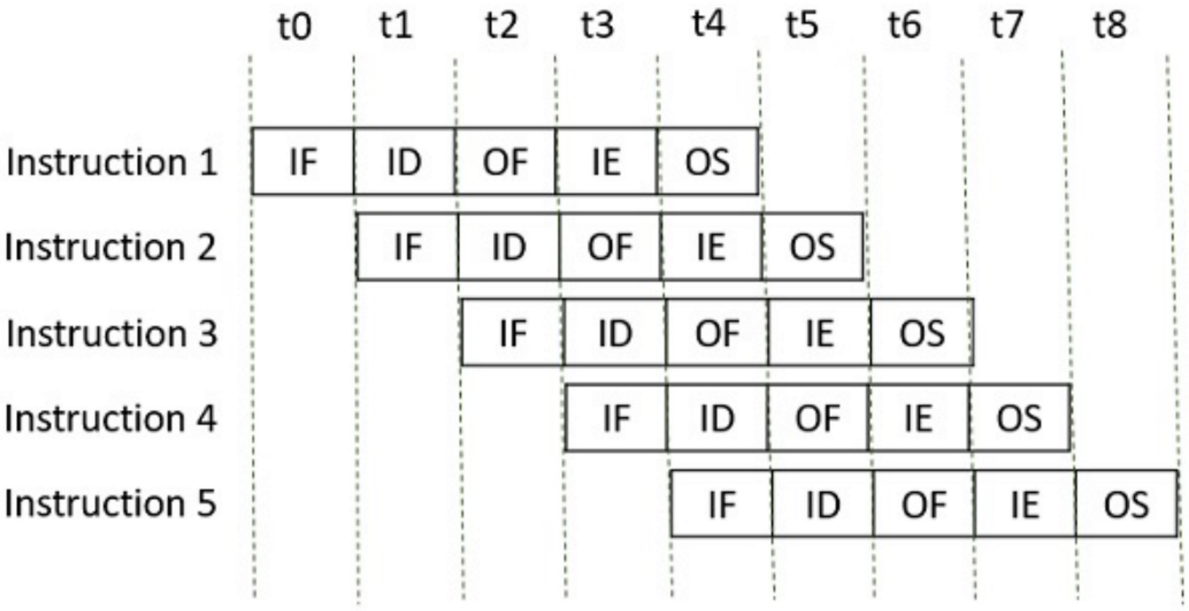


Address: 20 bits
Data: 16 bits
Max. CPU clock rate 5-10MHz
Ο 8086 είχε 8 καταχωρητές γενικής χρήσης 16-bit

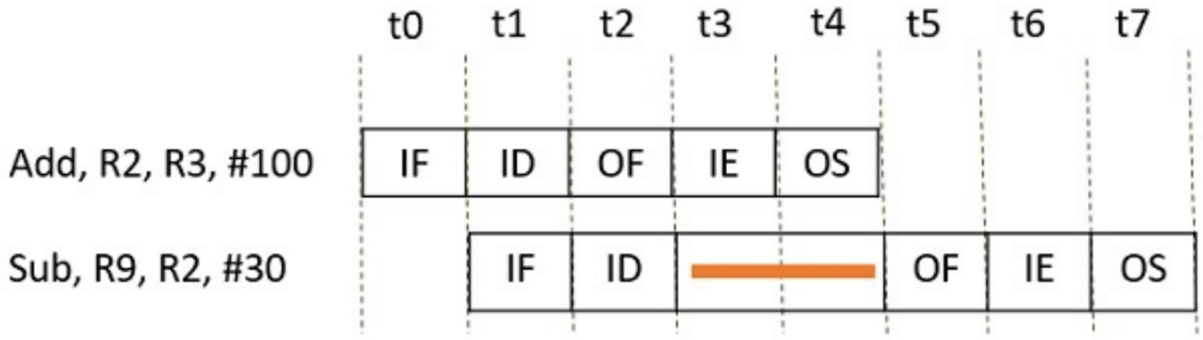




Instruction Fetch	Instruction Decode	Operand Fetch	Instruction Execute	Operand Store

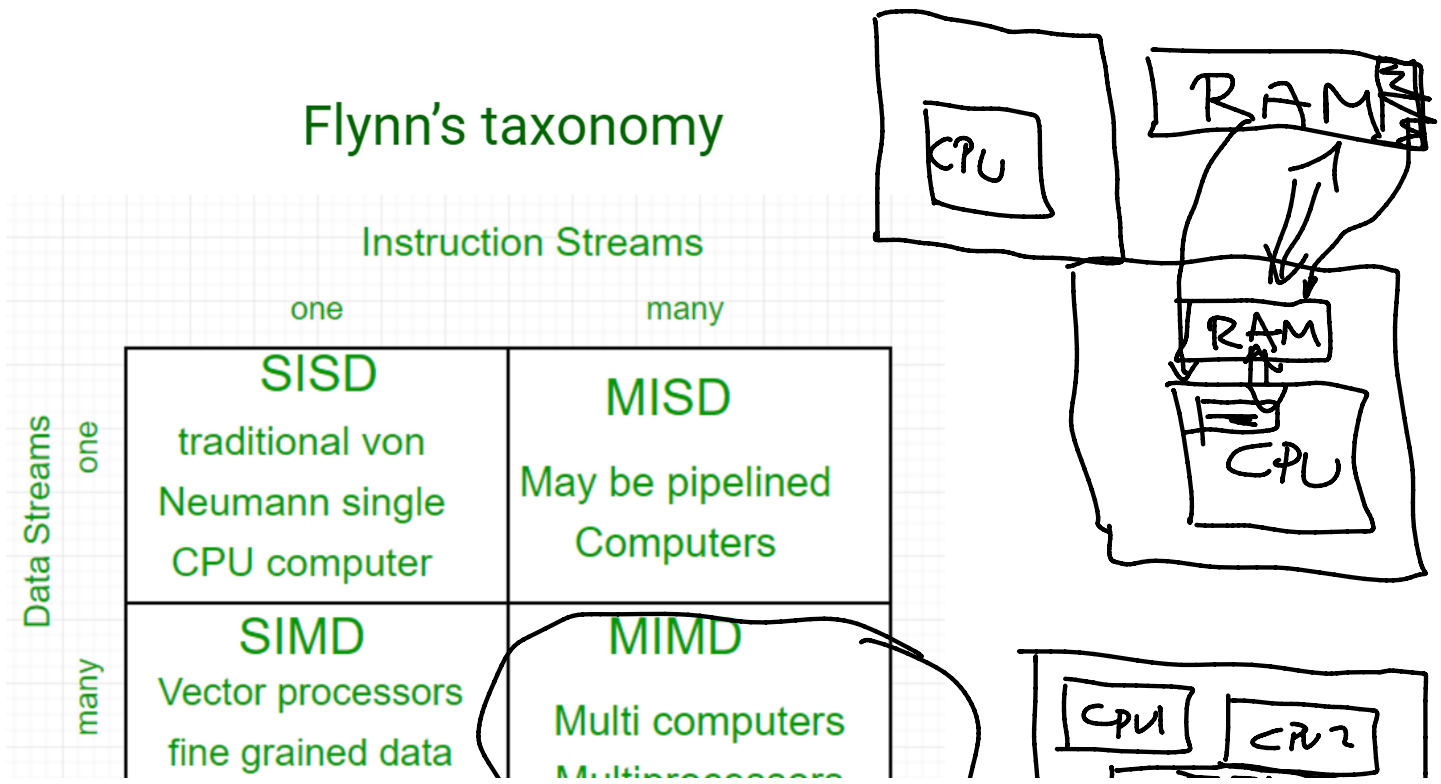


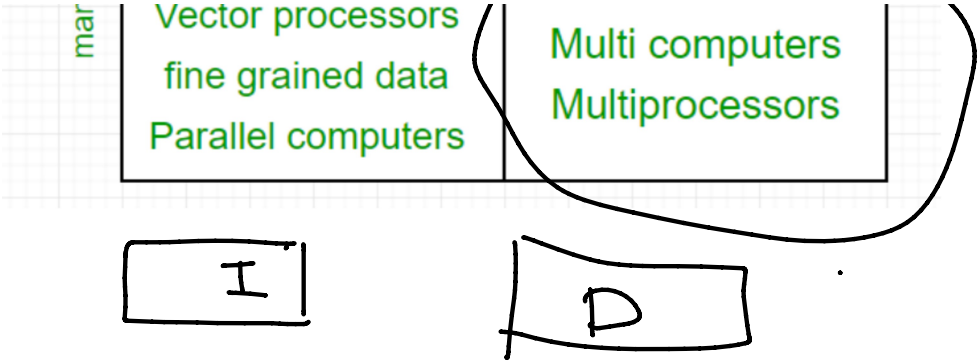
Pipelining of 5 Instructions



Data Dependency

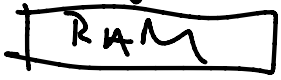
CISC	RISC
It is prominent on Hardware	It is prominent on the Software
It has high cycles per second	It has low cycles per second
It has transistors used for storing Instructions which are complex	More transistors are used for storing memory
LOAD and STORE memory-to-memory is induced in instructions	LOAD and STORE register-register are independent
It has multi-clock	It has a single - clock

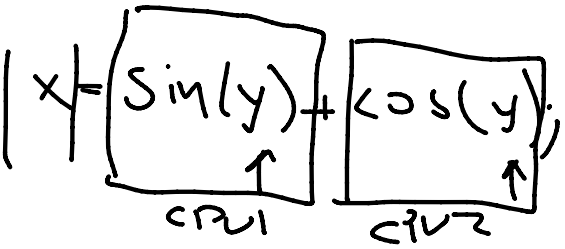


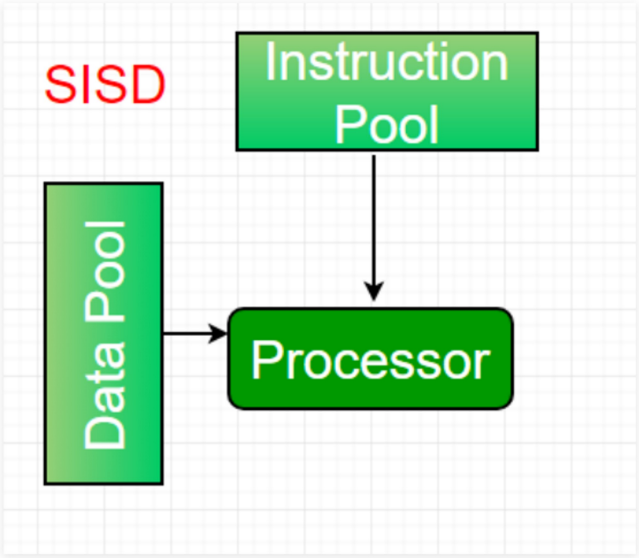

Vector processors
fine grained data
Parallel computers
Multi computers
Multiprocessors

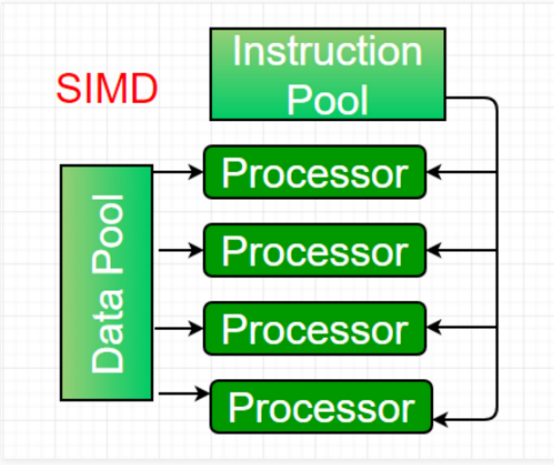

CPU
CPU2

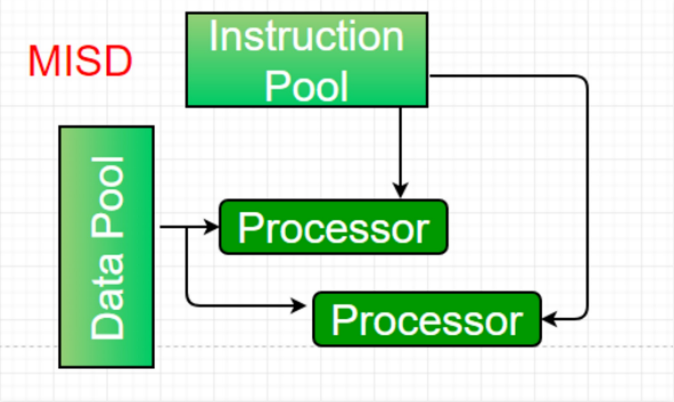
I
D


RAM

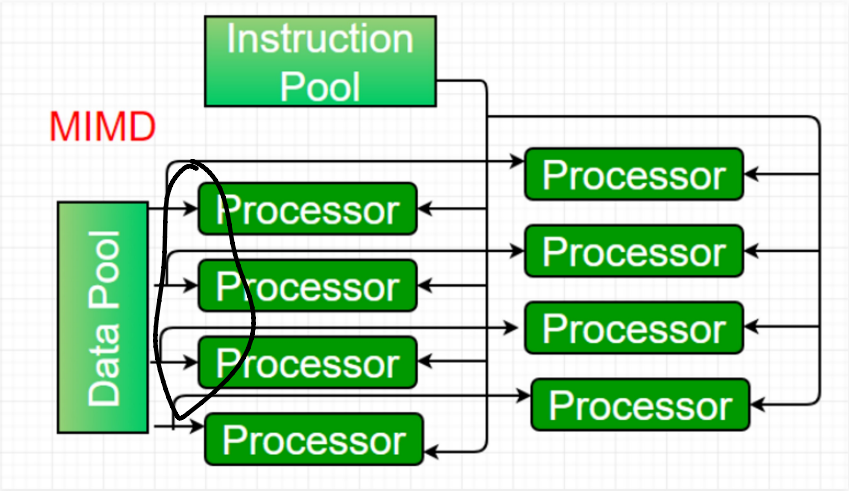

x=sin(y)+cos(y)
CPU1
CPU2


SISD
Instruction Pool
Data Pool
Processor


SIMD
Instruction Pool
Data Pool
Processor
Processor
Processor
Processor



Example Z = sin(x)+cos(x)+tan(x)



MIMD machines are broadly categorized into **shared-memory MIMD** and **distributed-memory MIMD** based on the way PEs are coupled to the main memory.