

# CN208 Introductory Computer Programming

Week 1:- Introduction to Computers and Programming

By

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## Introduction

- Welcome to CN208 Introductory Computer Programming course.
- Please share the experience and background.

# Introduction

## Course Syllabus

- **Text Book**
  - David M. SMITH, *Engineering Computation with MATLAB*, Addison Wesley
- **Reference Books**
  - Holly Moore, *MATLAB for Engineers*, Pearson Prentice Hall
  - Sergy E. Lyshevski, *Engineering and Scientific Computations Using MATLAB*, John Wiley & Sons, Inc.
- **Grading**
  - Class Participation 10%
  - Projects and Reports 30%
  - Midterm Exam 30%
  - Final Exam 30%

# Introduction

Week	Content
1	Introduction to Computers and Programming
2	Computer Concept and History
3	Programming Concept
4	Algorithm and Flowchart
5	Introduction to MATLAB
6	Execution Control (If, Switch)
7	Execution Control (For, While)
8	Mid-term Examination
9	Functions
10	Arrays
11	Character Strings
12	File Input and Output
13	Problem Solving
14	Other Programming Language and Structure
15	Review
16	Final Examination

## Introduction

- Wednesday Class still locates at 505-1.
- Friday Class moves to Lab 205.
  
- Assignment
  - Before Mid-term Exam
  - Before Final Exam
  
- Class Participation mark is based on quick note that will collect in the end of class take time about ~ 10-15 mins.

## Introduction

- **What is Computer ?**
- Why we need Computer ?
- What is Programming?
- Why we need Programming?

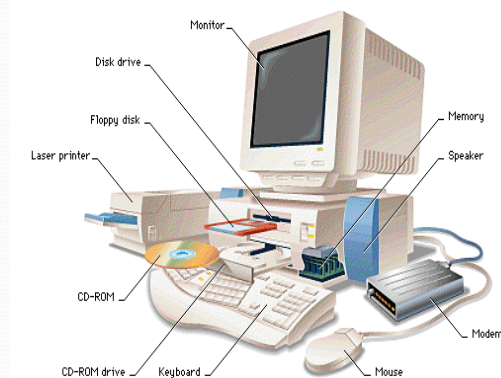
## What is Computer?

- A device that computes, especially a programmable electronic machine that performs high-speed mathematical or logical operations or that assembles, stores, correlates, or otherwise processes information



## What is Computer?

- Hardware Components
  - CPU
  - Memory
  - I/O Input & Output
  - Storage
  - Network



## What is Computer?

- Software
  - Operating System
  - Library
  - Application
  - Etc..



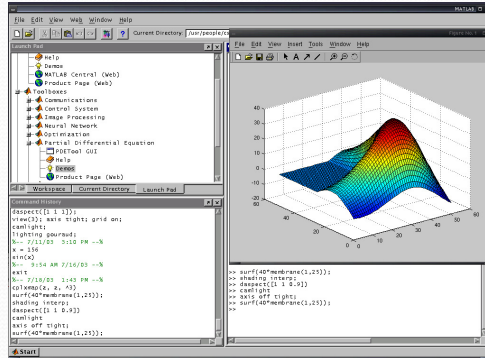
## Introduction

- What is Computer?
- **Why we need Computer?**
- What is Programming?
- Why we need Programming?

# Why we need Computer ?

- Problem Solving & Productivity Enhancement

- Database
- Spreadsheet
- Word Document
- Tools
- Mathematic
- Etc..



# Introduction

- What is Computer?
- Why we need Computer?
- **What is Programming?**
- Why we need Programming?

## What is Programming ?

**Computer programming** (often shortened to **programming** or **coding**)

is the process of writing,

testing,

debugging

troubleshooting,

and maintaining the source code.

This source code is written in a programming language.

## What is Programming ?

- **Programming languages** provide various ways of specifying programs for computers to run.
- They are generally either translated into **machine language** by a compiler or an assembler before being run, or translated directly at run time by an interpreter.



## What is Programming ?

```
mov  #0,sum ;   set sum to 0
mov  #1,num ;   set num to 1
loop: add num,sum ;   add num to sum
      add #1,num ;     add 1 to num
      cmp num,#1000 ; compare num to 1000
      ble loop ;      if num <= 1000, go back to 'loop'
      halt ;          end of program. stop running
```

## Introduction

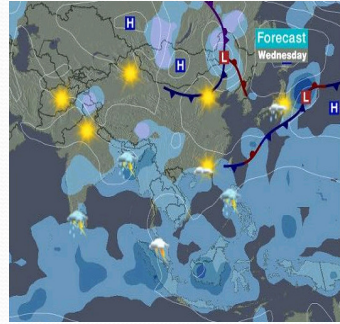
- What is Computer?
- Why we need Computer?
- What is Programming?
- **Why we need Programming?**



## Why we need programming?

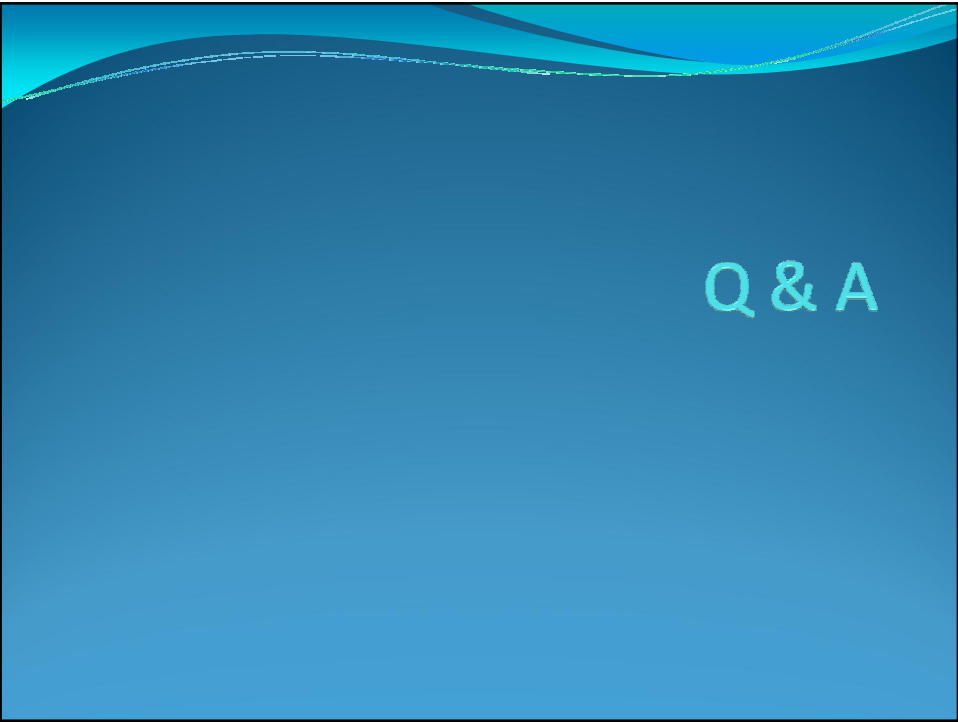
To Solve the Problem & Develop New Application

- To forecast tomorrow weather
- To manage ID & house registration
- To record health information
- To calculate missile launching.



## Reference

- [www.apple.com](http://www.apple.com) @ 8 OCT 2008
- <http://images.encarta.msn.com/xrefmedia/aencmed/targets/illus/ilt/To28766A.gif> @ 8 OCT 2008
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Q & A