

# week1

January 31, 2018

Welcome to ## QMIS 230: Business Problem Solving - Instructor: Mohammad AlMarzouq -  
Learning tool: VB.net - Course Website: [qmisr.github.io/mis230vb](https://qmisr.github.io/mis230vb) - Syllabus: [bit.ly/mis230\\_syl](https://bit.ly/mis230_syl)

## 1 Expectations

- I'm not here to make you an expert programmer
- I'm here to lay a foundation
- You can be one with practice! and not with VB.net only!
- Class will be held in lab2
- Quiz every thursday
- Most likely solved by those **attending** Sunday and Tuesday
- Bring printouts for weekly lab notes

## 2 Grade Distribution

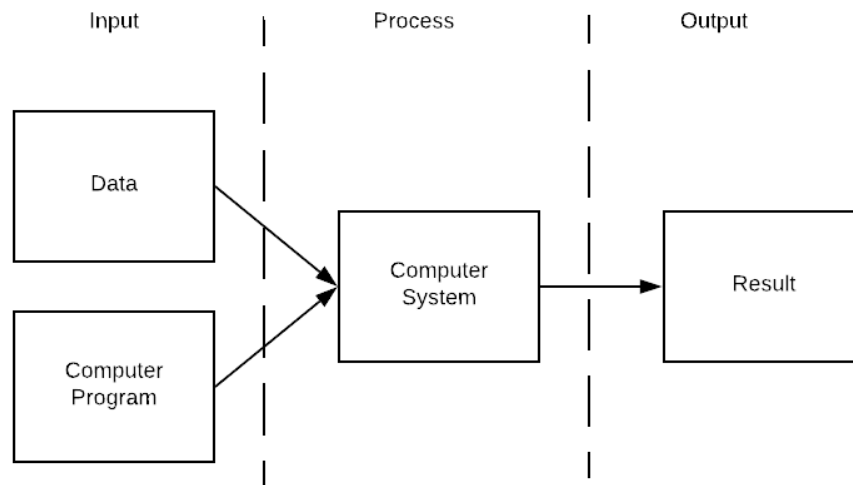
- 50% on Quizzes
- 10% on Tutorial
- 15% on Midterm
- 25% on Final

## 3 Requirements for class

1. Signup for you [cba.ku.edu.kw](mailto:cba.ku.edu.kw) email (**Important!**)
2. Use your new email to join [cbaqmis.slack.com](https://cbaqmis.slack.com) for class communication, you can also download for phone and PC
3. Download the **PC version** of visual studio community edition 2017
4. Use OneDrive from cba email, or Dropbox to share your projects
5. See syllabus: [bit.ly/mis230\\_syl](https://bit.ly/mis230_syl)

Computers are incredibly fast, accurate, and stupid.  
Human beings are incredibly slow, inaccurate, and brilliant.  
Together they are powerful beyond imagination.

- Albert Einstein



## 4 What are computers?

A machine that stores and manipulates information under the control of a **changeable program**

## 5 Where can computers be found?

- Calculators
- Gas pumps
- Cashiers
- Cars
- TVs and Electronics
- ...etc.

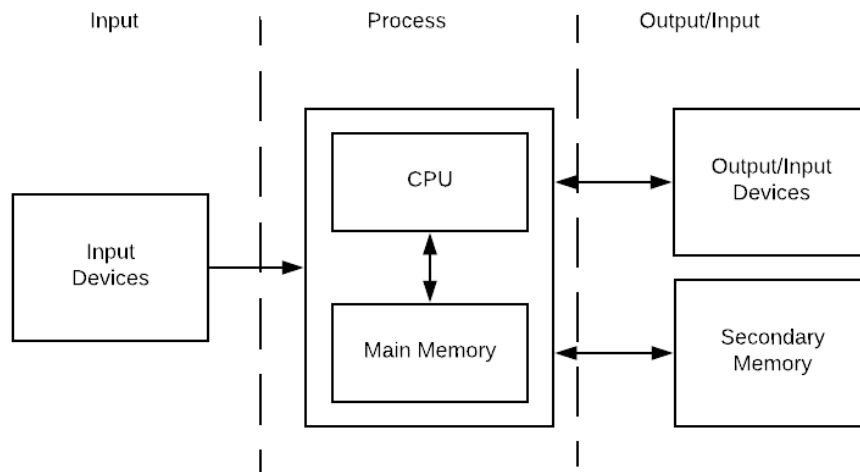
## 6 Computer System

## 7 What Is a Program?

- Detailed step-by-step instructions telling a computer **exactly** what to do.
- A Computer is just a machine to carry out execution of programs.

## 8 Computers as Universal Machines

- All computers can be instructed to perform what other computers do:
- Depends on What hardware is available to control
- They might also differ in how fast they execute it



## 9 Program Execution

## 10 Programming Languages

- The means in which humans can write instructions to computers
- This is the human readable part
- Why do we need it? why not use english?
- Compilers and interpreters will convert it to machine
- This is the machine readable part
- Programs can be distributed in
- Human readable form, called source code
- Machine readable form, called binary

## 11 Programming Languages Cont.

- There are many available:
- VB/C#/F#
- C/C++
- Python/Ruby/PHP/Perl/Javascript
- Java
- Swift
- ...etc

## 12 Programming Languages Cont.

- All can perform the same tasks
- They differ in:

- Syntax: Vocabulary used to construct statements
- Symantics: The meaning of the statements

## 13 Program Structure

- Programs consist of *statements and data*
- We write statements to perform tasks that handle and produce data
- The statements are executed sequentially
- Most likely top to bottom, left to right
- A program consists of a single or many statements
- To execute a program
- Must be fed to an interpreter to execute
- Compiled to binary then executed

## 14 Example Program

```
' program in VB
Dim msg as String = String.format("Hello {0}! ", textBox.text)
MsgBox(msg)
```

```
# Program in Python
name = readline("What is your name?")
print("Hello {}".format(name))
```

## 15 How to Perform Tasks

- You need to be able to describe the steps of a program in plain human language
- These steps must be detailed and accurate
- The steps are known as an algorithm ()
- Always spend time planning your program and thinking about the steps before writing it

## 16 Program Errors (Also Known As Bugs)

- Sometimes the program functions, but the steps we selected are incorrect
- This is known as a symmantic error
- Sometimes we forget to instruct the computer to handle special cases of data or input and it fails to deal with it
- This is known as a logical error
- Sometimes we do not write our statements correctly, the way the computer would understand them
- This is known as a syntax error