week1

January 20, 2018

Welcome to ## QMIS 230: Business Problem Solving - Instructor: Mohammad AlMarzouq - Learning tool: VB.net - Course Website: qmisr.github.io/mis230vb - Syllabus: 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

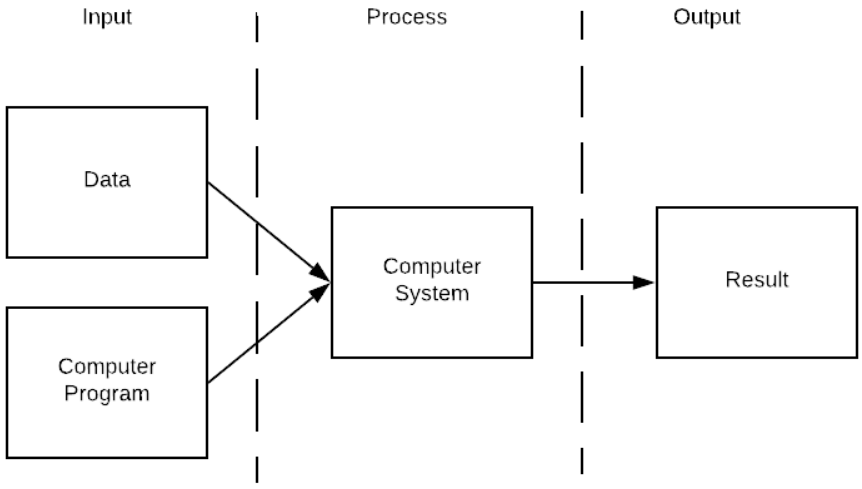
- 50% on Quizzes
- 10% on Tutorial
- 15% on Midterm
- 25% on Final

3 Requirements for class

1. Signup for you **cba.ku.edu.kw** email **(Important!)**
2. Use your new email to join 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

```
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.

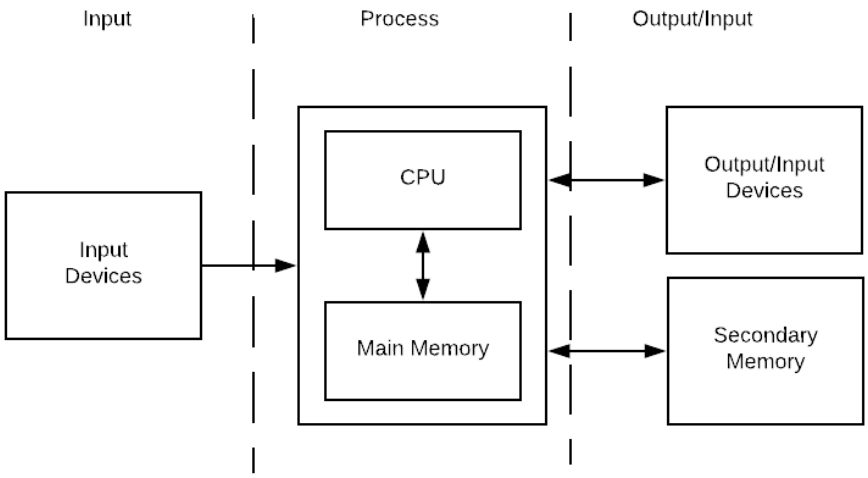
6 Computer System

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
- Symmatics: 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}! , txtBox.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