2nd Draft for the OS Project

After meeting with Ta. Islam we have concluded the following:

The Operating System will be divided to:

1. The Hardware Section including:
    a. Memory
    b. CPU
2. Processes
    a. Process
    b. ProcessStates(Enum)
    c. Threads
    d. Programs
3. Scheduling
    a. Somophores

We have only Completed the Memory and its functionalities and components, The process and its states and its relation with the memory. The other components and features will be implemented in the next milestones.

- **Processes and Programs**

The programs are going to be subclasses of the super class (Process), and each time an instance of a program is created a new Thread will be created for it. The Process contains the basic PCB attributes and each program should be aware of the number of memory locations it should use in order to know when to be allocated resources.

We have created methods to create and terminate the process and to assign states for the Process.(New when the process is initialized, Ready when it has already been assigned memory location, Terminated when it has finished its functionality or manually terminated and then it should be deleted from memory.

The processes has priorities and the higher the priority the more capable the process of interrupting the other processes.(Will be implemented later with the Scheduling)

- **Memory and Words**

We initialize a memory with the size we want. Each memory is simulated as an array of words.

Each word consists of 4 bytes(1 for the userid,1 for the process id,1 for the value, and 1 for the flag indicated if it is empty or not).

The methods of process and memory will be documented in our code.