



Project: Computer Program

Directions:

Now that you defined all the components of your computer, it is time to put them together into a single class called **Computer**. Before you create the class you will have to

- modify the **Memory** class to have a **Logger** pointer field that will be used to log writes to memory. This will include defining a set method to receive to **Logger** object and modifying the **Valid()** method.

Afterwards, for the **Computer** class, have the following:

- must have a private **Bus** field for the system bus.
- must have a private **Memory** pointer field.
- must have a private **Processor** pointer field.
- must have a private **Logger** pointer field.
- must have a default constructor that assigns NULL to the pointer objects.
- must make the copy constructor and assignment operator private.
- may have overloaded constructors that assigns objects to the pointer fields.
- must have a public set method for the **Memory** field.
- must have a public set method for the **Processor** field.
- must have a public set method for the **Logger** field.
- must have a public void method named **Power()** that takes no parameters. It executes the code in memory starting from line 0 if all pointer fields are not null.

When creating your class, make sure the computer will terminate when its reads the halt command and when errors occur. Last, define three programs for your computer. The programs must be

- an arithmetic program that evaluates an arithmetic expression with three different operations.
- an array program that stores the sum of n adjacent memory locations in another memory location. The size of the array and location of the first element will be stored in memory.
- a comparison program that stores the result of determining if the content of a memory location represents a leap year.