

Main Function

```
Motor1 = new Motor( )
Motor2 = new Motor( )
PushButton = new Button()
//Initialization
Motor1.motorAddress = 0x80000000 //Motor responsible for opening door
Motor2.motorAddress = 0x70000000 //Motor responsible for closing door
PushButton.buttonAddress = 0x60000000
InitializeMotorSpeed( Motor1.motorAddress )
InitializeMotorSpeed( Motor2.motorAddress )
IF NOT(Motor1.getMotorPosition = 0 AND Motor2.getMotorPosition = 0) AND
  NOT(Motor1.getMotorPosition = 1023 AND Motor2.getMotorPosition = 1023)
THEN
    openDoor( Motor1.motorAddress )
    //this initialization should only happen if the door is not in the open
    position or the closed position to satisfy system requirement #7.
while ( true )
{
    IF PushButton.getButtonState( ) = 0 //Button is pressed
    THEN
    {
        IF NOT(Motor1.isMoving) AND NOT(Motor2.isMoving) THEN
        {
            IF Motor1.getMotorPosition = 0 AND
            Motor2.getMotorPosition = 0 THEN
                Motor1.openDoor( );

            IF Motor1.getMotorPosition = 1023 AND
            Motor2.getMotorPosition = 1023 THEN
                Motor2.closeDoor( );
        }
    }
}
```