Initialise the timer  
Set intensity, counter, location to 0  
Store counter in the memory  
  
For i=0 to i=7  
 Store intensity in the memory on location i  
Start the countdown  
Loop for ever

1  
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Timer interrupt:  
Reset the countdown to 1

Load the value of counter from the memory  
counter++  
If counter=1000  
 counter=1  
Store the value of counter in the memory  
Set temp, lights to 0

For i=0 to i=7  
 if location=0  
 store the value of the AD in temp  
 divide temp by 25  
 else  
 get the value of the memory on location i and save it in temp  
 if the mod 10 of counter < temp  
 lights+=2^i

if counter=1  
 For i = 0 to i = 7  
 if button i is pressed  
 get the value of the memory on location i and save it in temp  
 temp++  
 if button 0 is pressed  
 temp = temp - 2  
 if 11 > temp > 0  
 save the value of temp in the memory on location i

go back to the loop on line #6