1. The table below shows some values in the HC12’s PWM registers:

<table>
<thead>
<tr>
<th>PWCLK</th>
<th>PWPOL</th>
<th>PWEN</th>
<th>PWSCAL0</th>
<th>PWSCAL1</th>
<th>PWPER0</th>
<th>PWPER1</th>
<th>PWDTY0</th>
<th>PWDTY1</th>
<th>PWCTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2D</td>
<td>5F</td>
<td>03</td>
<td>35</td>
<td>57</td>
<td>C7</td>
<td>63</td>
<td>31</td>
<td>4F</td>
<td>00</td>
</tr>
</tbody>
</table>

(a) What is the period of the pulse width modulated signal generated on PWM channel 0?
(b) What is the duty cycle of the pulse width modulated signal on PWM channel 0?
(c) What is the period of the pulse width modulated signal generated on PWM channel 1?
(d) What is the duty cycle of the pulse width modulated signal on PWM channel 1?

2. You want to set up PWM channel 3 to generate a pulse width modulated signal with a frequency of 5 kHz and a duty cycle of 40%. How will you set up the HC12 PWM registers to do this? Indicate which clock mode you will use, and the values of PCKB (and PWSCL0, if you use clock mode 1).

3. Write some C code to set up PWM channel 3 to generate a pulse width modulated signal with a frequency of 5 kHz and a duty cycle of 40%. Be sure your code does not change the function of any other PWM channel?

4. Write the program for Part 4 of Lab 8. Note that this includes the code for the previous parts of the lab.