1. Write a function called Max which returns the maximum value of an integer array which is passed as a parameter. Assume the array size is also passed as a parameter.

2. The ARM Cortex M0 is a load and store architecture. What does this mean?

3. What are the general characteristics of RISC processors?

4. On reset how are the GPIO pins defined on the ARM? Why?

5. In the thumb2 assembly code some instructions can have an $s$ appended to the end of them to change their function. For example we can write either add r1, r2 or adds r1, r2. What does the $s$ do?

6. An ARM Cortex M0 assembly language program might end with the two instructions below. What do they do?
   
   pop {r0-r5};
   bx lr;
7. If the reference voltage on the A to D converter is 3.3 volts and the user inputs an analog signal of 2.5 volts, what binary value appears in the A to D data register?

8. Calculate the correct values to put into U0DLM and U0DLL for a baud rate of 9600 baud if the UART clock is set to 12 MHz. You do not need to set up the fractional divide registers.

9. Answer the questions below about the program.

A. Which pin is used for output?______

B. The assembly program has two loops. Which lines form the inner loop?______

C. Which lines form the outer Loop?______

D. How many times does the outer loop run in this program?______

E. How many iterations are in the inner loop in this program?______

F. What is the total number of times line 23 is executed if Delay is called one time?______

G. If the total time delay for the assembly function is 3.9μsec what is the frequency of the output waveform?______

H. What is the purpose of line 11?

I. What is the purpose of line 25?
10. Write a program in C to make bit P0.6 the logical exclusive or of bit P0.7 and P0.8. You may assume that P0.6 has already been set up for output and bits P0.7 and P0.8 are set up for input.

11. Answer the following questions about the program below:
   A) The program outputs to port _______ at bit _______
   B) Which lines have to be changed to get the program to output to P1.3. List the line number the change that is needed.
   C) Which line determines the length of the time delay between interrupts?

```c
//
int main()
{SYSAHBCLKCTRL |= (1 << 8);  //Enable clock for 16-bit timer 1
  GPIO0DIR |= 2;
  NVIC_ISER |= (1 << 17);  //Enable 16-bit timer 1 interrupt
  TMR16B1PR = 1;           //Prescale register.
  TMR16B1MR0 = 1024;       //Match count is 1024
  TMR16B1MCR |= 1;         //Generate an interrupt if match on MR0
  TMR16B1MCR |= (1 << 1);  //Reset TC if match on MR0
  TMR16B1TCR |= 1;         //Enable TC to run
  while (1);
}
//
void TIMER16_1_IRQHandler(void)
{GPIO0DATA ^= 0x2;
  TMR16B1IR = 1;
}
```