

La Trobe University
Department of Electronic Engineering
ELE22MIC - Microprocessors
Assignment 3, 2005

Question 1. Number to String Conversion

Write a 68HC11 assembly language subroutine to convert a 16-bit integer to a five digit decimal-ASCII zero terminated character string.

The value to convert should be passed in Accumulator D,
and the result returned in a variable result_string.

```
result_string  RMB 5  
              FCB 0
```

Question 2. String to Number Conversion

Write a 68HC11 assembly language subroutine to convert a five digit decimal-ASCII zero terminated character string to a 16-bit integer .

The value to convert should be passed in Accumulator X,
and the result returned in a variable Accumulator D.

Question 3. Converting pseudo code to Assembly code

Write a 68HC11 assembly language code equivalent to the following C code.

```
while ((ADCTL & CCF) == 0) {} ;
```

Question 4. TOC Timer Interrupt Service Routine

Write a 68HC11 assembly language interrupt service routine using the TOC2 Timer to output a square wave of variable frequency.

Attach to the front of your assignment

Name: _____ Student No _____
Subject: ELE22MIC - Microprocessors Assignment: 3
Lecturer: Mr Paul Main Date Due: Tuesday 1st Nov 2005, 2pm

DECLARATION

I certify that the attached assignment is my original work and that no part of it has been copied or reproduced from any other person's work without acknowledgment.

Signed: _____ Date: _____