

LAB 2

SAMPLE PROGRAM

1. INTRODUCTION

This lab gives information about addressing modes of MC6802. Read all the addressing modes of MC6800 (read *addressing modes.ppt* under the “sinif dosyalari”). These are **immediate**, **direct**, **inherent**, **extended**, **relative** mode addressing.

2. ADDRESSING MODES

Determine the addressing modes of instructions below. Write machine code for these instructions. Before coming to lab, write and run this code on 6800 Simulator. In the Lab, you will run the code on ITU-Training Kit. Your results should be the same as the simulator results.

```
LDAA #$55
CPX #$4500
LDAA $10
ADDB $30
STAA 0, x
CMPB 2, x
LDAA $4100
CPX $4200
CLRA
SWI
```

3. EXPERIMENT

Write the assembly code for the following algorithm. Then, convert the assembly into machine code and run on ITU-TRAINING Kit. The code separates odd and even numbers of array **A**. Your program should start from address \$4000. (Hint: whether the number is even or odd, only test least significant bit of the number. If it is 1, your number is odd else even). You can apply the algorithm for ten numbers.

Beginning address of Array **A** is \$4100

Beginning address of Array **Even** is \$4200

Beginning address of Array **Odd** is \$4300

```
j=0;
k=0;
for(i=0; i<n; i++)
    if(A[i]%2==0)
        Even[j++]=A[i];
    else
        Odd[k++]=A[i];
```

In your report, answers and simulator results of section 2 and 3 should be stated.