Microcomputer Lab - Experiment 6

T. Tolga Sarı: sarita@itu.edu.tr

1 Introduction

In this experiment, you will learn to use EASy68K. Using this program; you can edit, assemble, and run 68000 programs. EASy68K can be downloaded from here. Instruction set of 68000 can be found here.

In this experiment, you will implement well-known sorting algorithm Bubble Sort. The array that will be sorted, will have 20 unsigned bytes. The program first, outputs the array to the command line. Then, using bubble sort, it sorts the array. Lastly, it outputs the sorted array to the command line.

2 Part 1 (10 Points)

In this part, you will create your array using 68000 and print it to the command line. Create an array and output it to the command line. You can create array at address $2000 using the command below:

```
1      .ORG $2000
2  ARR DC.B $23, $42, $54, $44, $33, $90, $86, $49
```

After creating this list, print it to the command line. Do not hardcode this part(Your code must traverse the array and print it to command line and stop at the end of the array), your code will be tested for different array values. Don't take inputs from the user. Array values are statically specified in the assembly code. You can follow this example for this part.

3 Part 2 (60 Points)

In this last part, you will sort the array using bubble sort algorithm and print it to the command line using the code from the previous part.

4 Report (30 Points)

Please submit a report explaining the main concepts of this experiment, and give information about your algorithm. Do not copy paste your code into the report. Report will be maximum 2 pages long(not counting the cover). You can use this template for this part. template for the report. Do not copy paste your code into the report.

5 Submission Rules

- Write your code using EASy68K simulator with your group only.

- The file type must be ".x68" for submitting to the ninova.

- The file type for the report must be ".pdf" for submitting it to the ninova.

- Use comments where necessary to make your code understandable.

- Any form of plagiarism for the Part 2 will not be tolerated. This includes, the internet and other groups' assembly codes. Each experiment must be done independently from each group.

- No late submissions will be accepted.