

İTÜ



Department of Computer Engineering

BLG 351E Microcomputer Laboratory Experiment Report

Experiment No : 3
Experiment Date : 05.11.2015

Group Number : 2
Group Members :

ID	Name	Surname
040100055	Emir	Bilgin
150120121	Hüseyin	Tosun
150120251	Cem Yusuf	Aydoğdu

Laboratory Assistant : Atakan Aral

ldaa \$10	;Loading numbers to accumulator A and B
ldab \$10	
anda #%00001111	;Eliminating the 4 higher bits (Acc A)
rola	;Rolling the 4 lower bits to left (Acc A)
rola	
rola	
rola	
andb #%11110000	;Eliminating the 4 lower bits (Acc B)
rorb	;Rolling the 4 higher bits to right (Acc B)
rorb	
rorb	
rorb	
stab \$09	;Operations to calculate 'A OR B'
oraa \$09	
tab	;Transfer A to B
anda #%10101010	;Encryption technique
rora	
andb #%01010101	
rolb	
stab \$09	
oraa \$09	
eora \$11	
staa \$12	
swi	;Conclude the test

2.2 PART 2

In part 2, we implemented a decryption program for the bit-wise encryption algorithm.

```
ldaa $12
eora $11                ;cipher text key
tab                    ;Transfer A to B
anda #%00001111        ;Eliminating the 4 higher bits (Acc A)
rola                    ;Rolling the 4 lower bits to left (Acc A)
rola
rola
rola
andb #%11110000        ;Eliminating the 4 lower bits (Acc B)
rorb                    ;Rolling the 4 higher bits to right (Acc B)
rorb
rorb
rorb
stab $09                ;Operations to calculate 'A OR B'
oraa $09
tab                    ;Transfer A to B
anda #%10101010        ;Decryption technique
rora
andb #%01010101
rolb
stab $09
oraa $09
staa $13
swi                    ;Conclude the test
```

3 CONCLUSION

The mechanisms of the microprocessors and bit-wise encryption have been learnt in this laboratory session. Although the training kit was too old, we were able to complete our tasks.