

CSC270 Homework9

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From the memory I/O map, I observe that the memory area between 6000~6FFFF are used to store data and there are 0FFF+1 which is 4096 address available for data storage. Thus, we can totally manage to store the 1000 bytes within this memory area. The Program I came up with is shown below. LDS instruction requires 5 cycles and the LDAA and PSHA combination requires $3+4 = 7$ cycles and JSR instruction requires 6 cycles. The entire process will take $5 + 7 * 1000 + 6 = \mathbf{7011}$ cycles.

```
ORG 0000

LDS 6FFFF      ; load stack pointer to 6FFF (beginning of Data and Stack area)
LDAA 8000      ; read 1000 bytes from the input port
PSHA           ; push the input data into stack
LDAA 8000
PSHA
.....         repeated LDAA& PSHA for 1000 times
JSR C000       ; return to monitor
```