Date: 05/23/2020
To: CSS 422, Spring 2020
From: Yang Hu, Matt Johnson, Jun H Park
Subject: [Group 14] Report on the Third Progress

Meeting time and location:

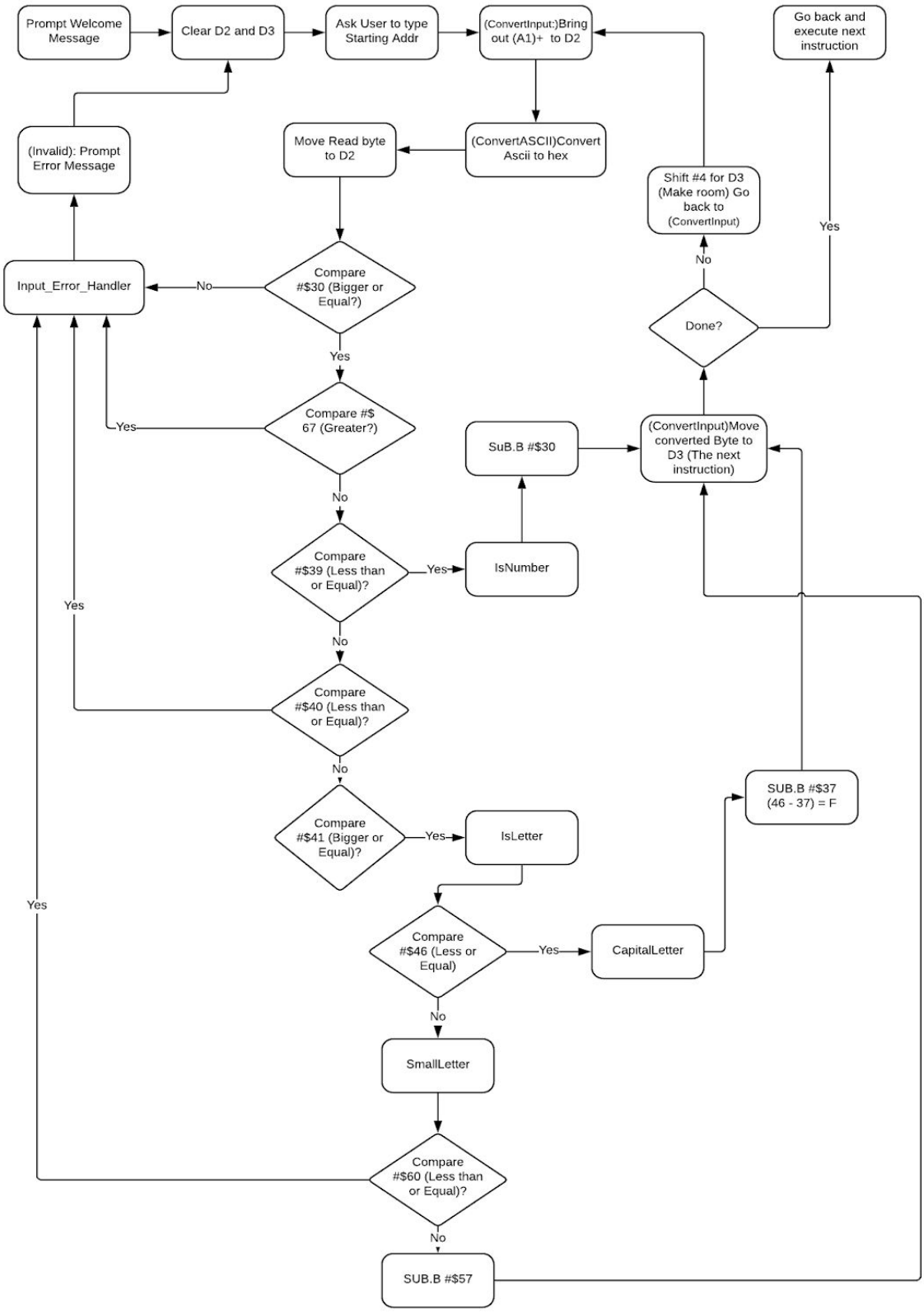
Indicate the meeting date, time, and location this week.

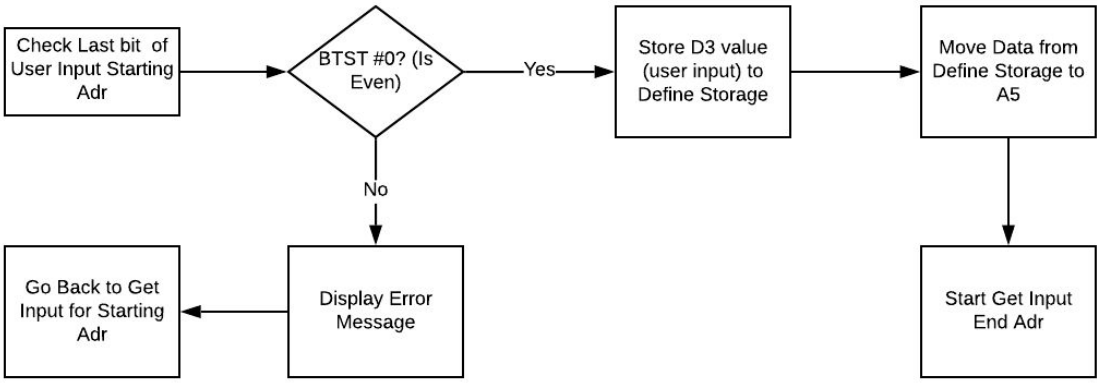
- Wednesday after CSS 422 class (3:15 pm)
- Friday afternoon

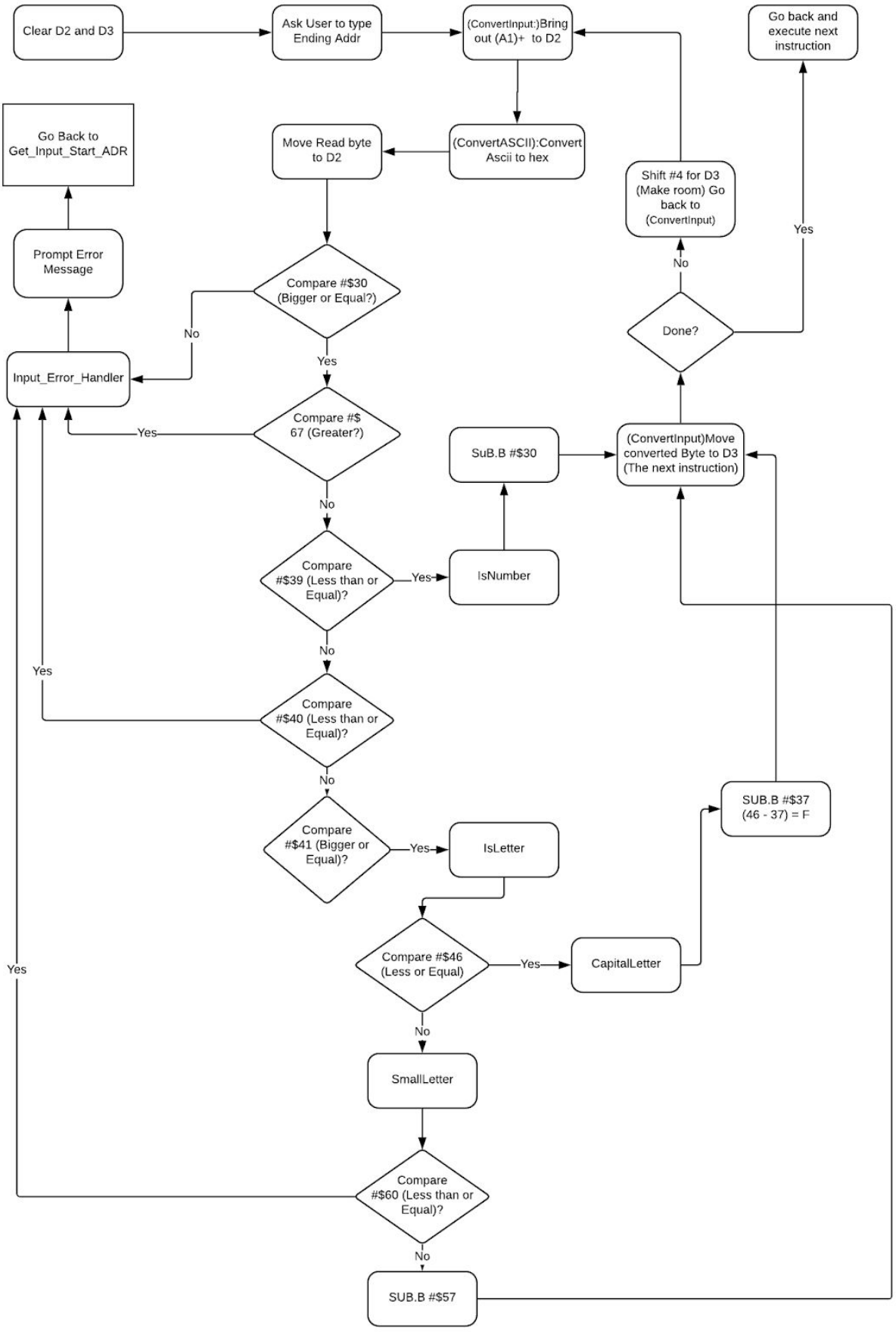
Please state what you did If I missed it with flowchart
Work Completed:

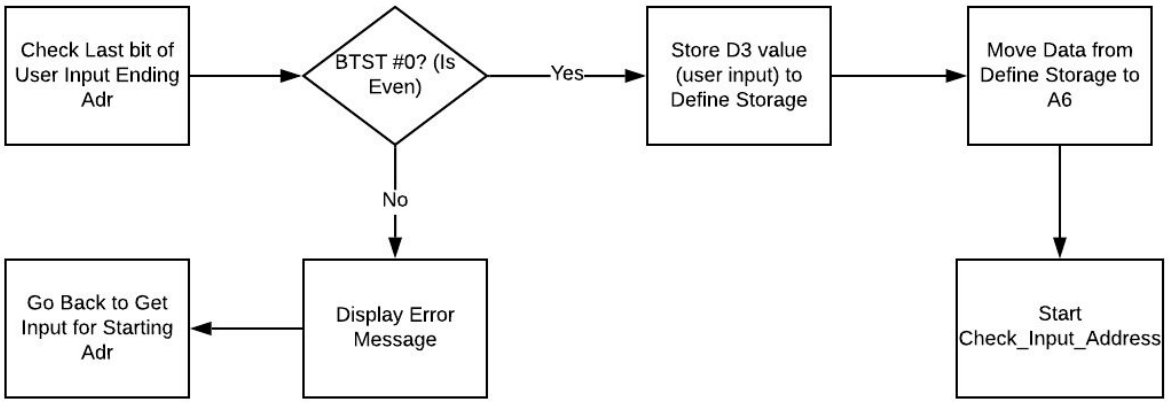
- Starting address and end address prompt by a user
- Basic Loop (still on the test but it works as intended with just 1 input, not tested consecutive input yet)
- Store and print out the current address (tested on just 1 input, not consecutive)
- Set up conditional Branches with all 14 lists **(Require Flow Chart)**
- Branch Bxx (BCC, BLE, BGT) with displacement, however, BGT is not done and currently did not implemented for displacement for FF

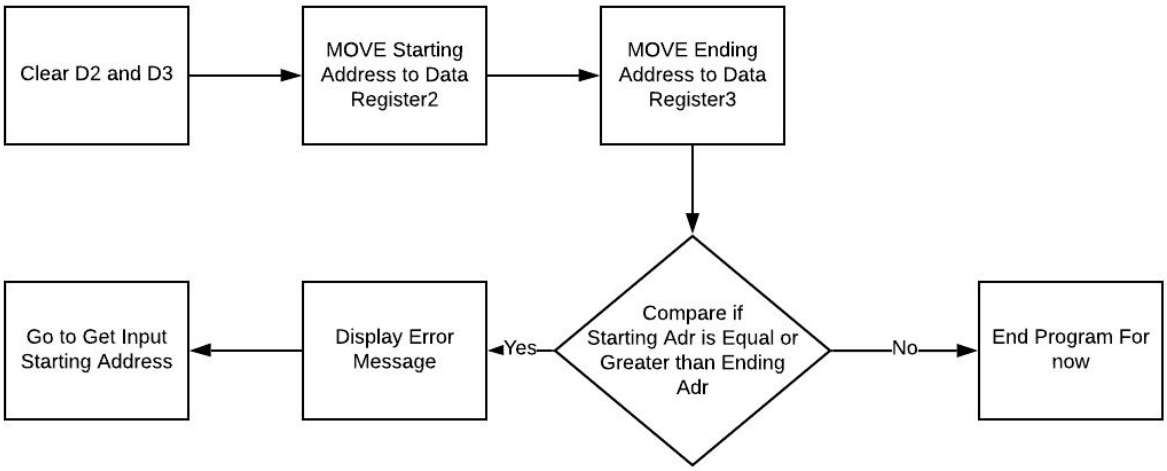
Flow Charts
Starting Address && Ending Address


Prompt Welcome Message
Clear D2 and D3
Ask User to type Starting Addr
(ConvertInput:)Bring out (A1)+ to D2
Go back and execute next instruction
(Invalid): Prompt Error Message
Move Read byte to D2
(ConvertASCII)Convert Ascii to hex
Shift #4 for D3 (Make room) Go back to (ConvertInput)
Input_Error_Handler
No
Compare #$30 (Bigger or Equal?)
Yes
Done?
Yes
No
Yes
Compare #$ 67 (Greater?)
SuB.B #$30
(ConvertInput)Move converted Byte to D3 (The next instruction)
No
Compare #$39 (Less than or Equal)?
Yes
IsNumber
Yes
No
Compare #$40 (Less than or Equal)?
No
SUB.B #$37 (46 - 37) = F
Compare #$41 (Bigger or Equal)?
Yes
IsLetter
Yes
Compare #$46 (Less or Equal)
Yes
CapitalLetter
No
SmallLetter
Compare #$60 (Less than or Equal)?
No
SUB.B #$57

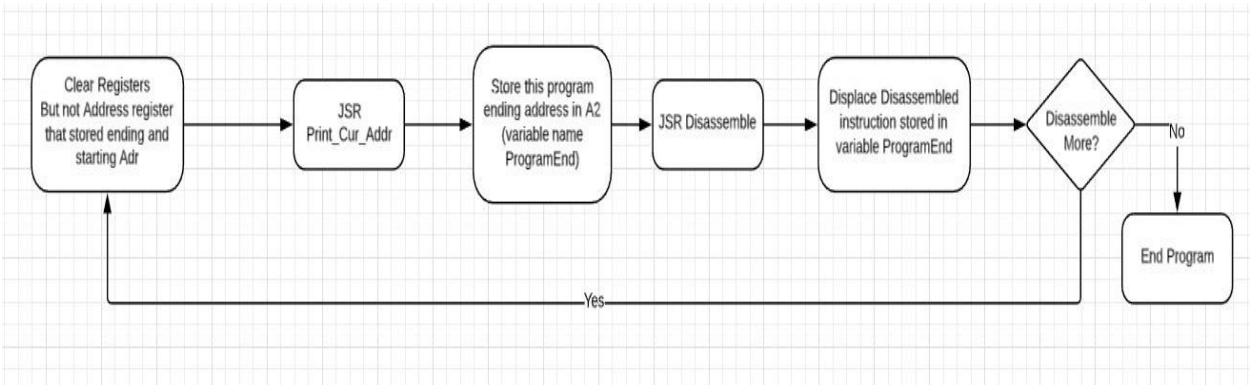

Check Last bit of User Input Starting Adr
BTST #0? (Is Even)
Yes
No
Store D3 value (user input) to Define Storage
Move Data from Define Storage to A5
Start Get Input End Adr
Display Error Message
Go Back to Get Input for Starting Adr


Clear D2 and D3
Ask User to type Ending Addr
(ConvertInput:)Bring out (A1)+ to D2
Go back and execute next instruction
Go Back to Get_Input_Start_ADR
Move Read byte to D2
(ConvertASCII):Convert Ascii to hex
Shift #4 for D3 (Make room) Go back to (ConvertInput)
Yes
Prompt Error Message
Compare #$30 (Bigger or Equal?)
No
Done?
No
Input_Error_Handler
Yes
Compare #$ 67 (Greater?)
SuB.B #$30
(ConvertInput)Move converted Byte to D3 (The next instruction)
Yes
No
Compare #$39 (Less than or Equal)?
Yes
IsNumber
No
Yes
Compare #$40 (Less than or Equal)?
No
SUB.B #$37 (46 - 37) = F
Compare #$41 (Bigger or Equal)?
Yes
IsLetter
Compare #$46 (Less or Equal)
Yes
CapitalLetter
Yes
No
SmallLetter
Compare #$60 (Less than or Equal)?
No
SUB.B #$57

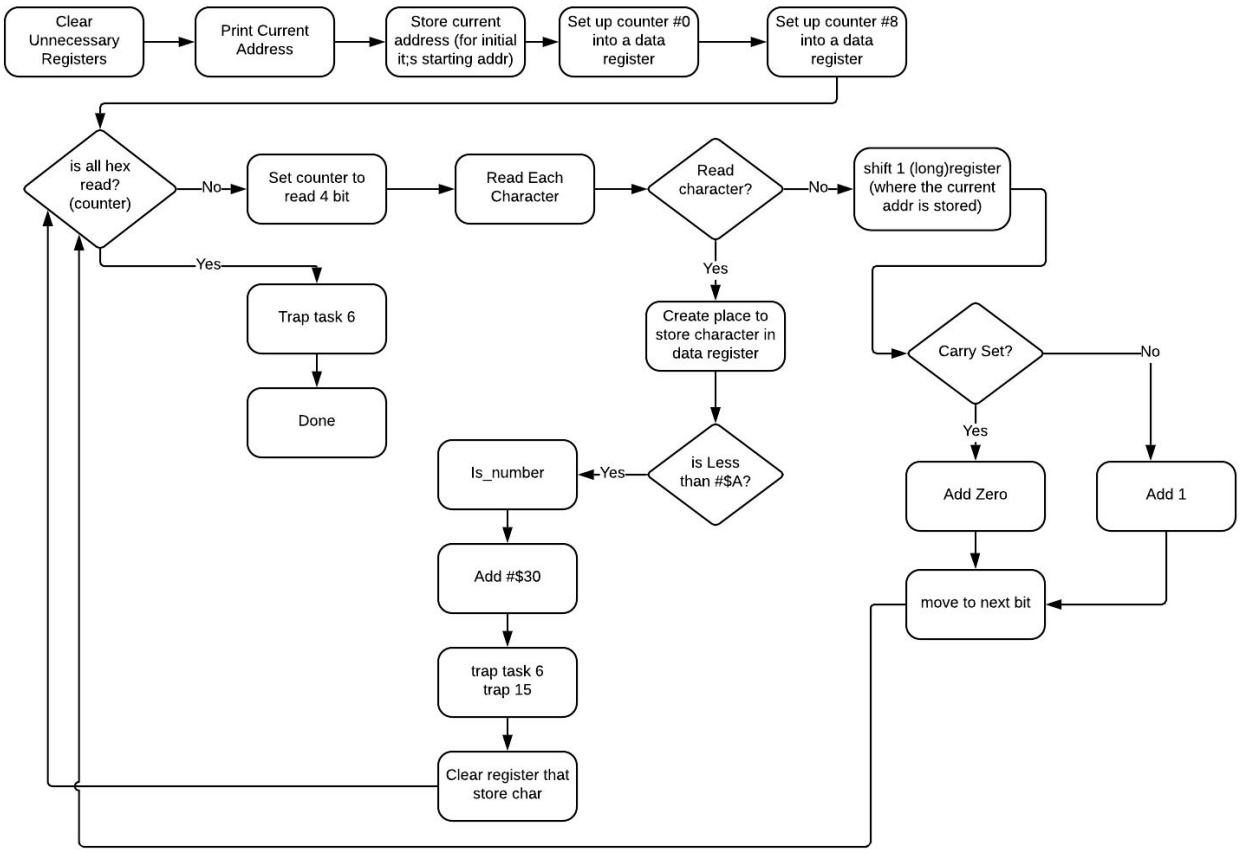




Basic Loop



Store and print out the current address (tested on just 1 input, not consecutive)



Set up conditional Branches with all 14 lists

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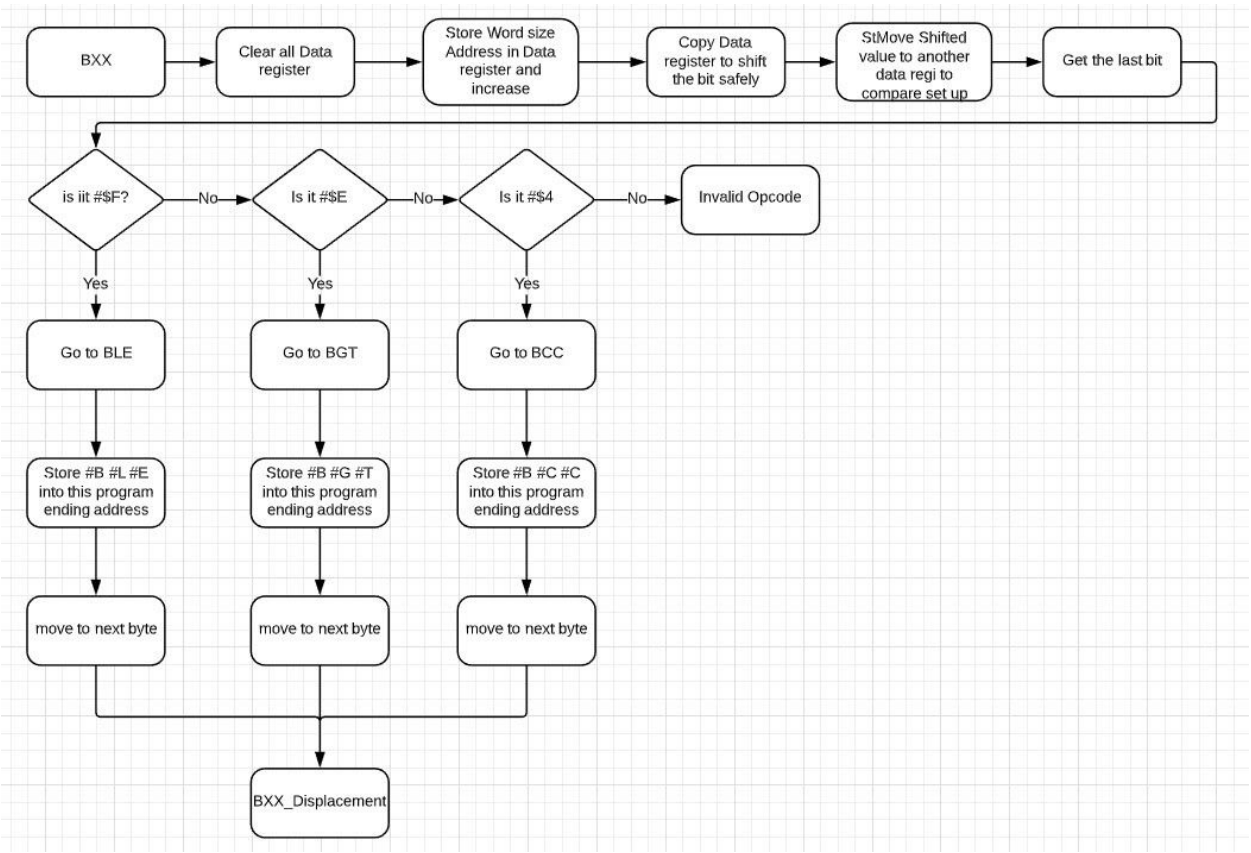
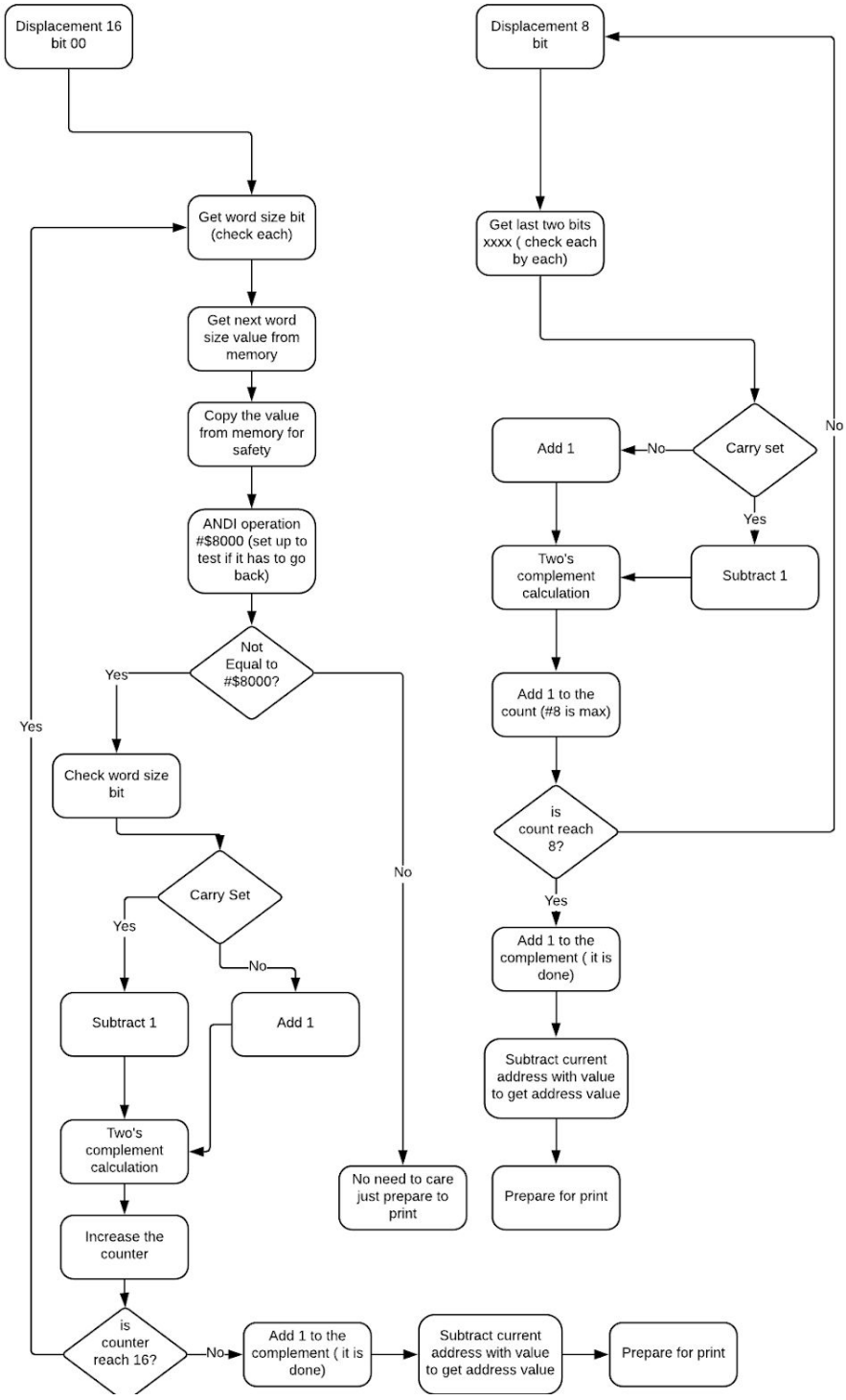
Branch Bxx (BCC, BLE, BGT) with displacement, however, BGT is not done and currently did not implemented for displacement for FF


BXX
Clear all Data register
Store Word size Address in Data register and increase
Copy Data register to shift the bit safely
StMove Shifted value to another data regi to compare set up
Get the last bit
is iit #$F?
No
Is it #$E
No
Is it #$4
No
Invalid Opcode
Yes
Yes
Yes
Go to BLE
Go to BGT
Go to BCC
Store #B #L #E into this program ending address
Store #B #G #T into this program ending address
Store #B #C #C into this program ending address
move to next byte
move to next byte
move to next byte
BXX_Displacement


Displacement 16 bit 00
Get word size bit (check each)
Get next word size value from memory
Copy the value from memory for safety
ANDI operation #$8000 (set up to test if it has to go back)
Not Equal to #$8000?
Yes
No
Check word size bit
Carry Set
Yes
No
Subtract 1
Add 1
Two's complement calculation
Increase the counter
is counter reach 16?
No
Yes
Add 1 to the complement (it is done)
Subtract current address with value to get address value
Prepare for print
No need to care just prepare to print
Displacement 8 bit
Get last two bits xxxx (check each by each)
Carry set
No
Yes
Add 1
Subtract 1
Two's complement calculation
Add 1 to the count (#8 is max)
is count reach 8?
No
Yes
Add 1 to the complement (it is done)
Subtract current address with value to get address value
Prepare for print

Problems:

Explain any problems you have encountered. This problem usually should be reported to your team member if it is an individual report.

- Wednesday meeting was successful (right after class). However, Friday meeting was a bit confusing because we did not set up the exact time, but mentioned Friday afternoon.
- We haven't tested with multiple test inputs yet. It has to be done for the next iteration along with other branches.

Work Scheduled:

Enumerate all the works scheduled. It is recommended to write in the order of priority. This part can be repeated if you did not finish it.

- Finish up worked on branches that are not completed.
- Work on other branches.
- Test with multiple inputs.
- Debug.