ASSIGNMENT #4
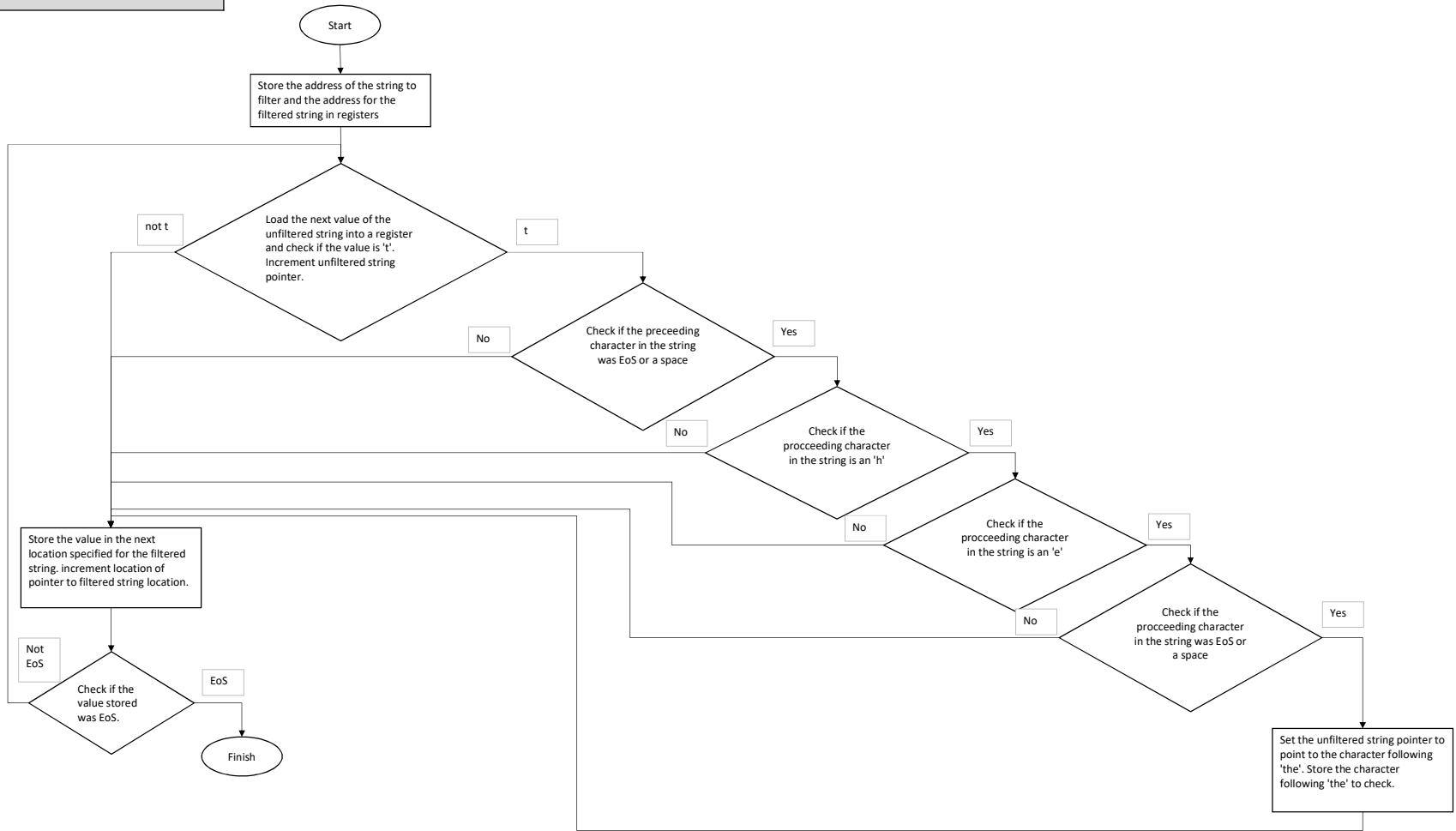
CS 2208B

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QUESTION 1 - FLOWCHART

Start

Store the address of the string to filter and the address for the filtered string in registers

Load the next value of the unfiltered string into a register and check if the value is 't'. Increment unfiltered string pointer.

not t

t

Check if the preceeding character in the string was EoS or a space

No

Yes

No

Check if the procceeding character in the string is an 'h'

Yes

No

Check if the procceeding character in the string is an 'e'

Yes

Store the value in the next location specified for the filtered string. increment location of pointer to filtered string location.

No

Check if the procceeding character in the string was EoS or a space

Yes

Not EoS

Check if the value stored was EoS.

EoS

Finish

Set the unfiltered string pointer to point to the character following 'the'. Store the character following 'the' to check.

START

initialize the stack pointer such that a Full and Descending stack will be used in the program.

Store the value of the variable x in register r0, and branch with link to the function used to determine min(y,d).

Block store registers to be used in the function to determine min(y,d) in the stack.

Block load the values of variables a, b, c, and d into registers to be used in the function to determine

Using Horner's rule and the MLA instruction, calculate the value of y: (ax + b)x + c

Using Horner's rule and the MLA instruction, calculate the value of y: (ax + b)x + c

Compare the calculated value of 'y' to the calculated value of 'd'.

d < y

y < d

Store 'd' in r0.

Store 'y' in r0.

Block load registers with corresponding data that was stored on the stack at the

Return to the main function and store double the value of r0 in r1.

FINISH