Implementing and Testing Logisim Circuit using the Assembler and Debugger

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Lab 6 Report
Group 1

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1 Fragment 1

1.1 Complete the Fragment1SRC code by replacing all occurrences of "***" with the necessary details. Do not add any additional instructions. Then Submit your completed (working) Fragment1SRC code.

Please find ***Fragment1-SRC-myAnswers.txt*** file in **Lab 6** repository.

2 Fragment 2

2.1 Complete the Fragment2SRC code by replacing all occurrences of "***" with the necessary details. Do not add any additional instructions. Then Submit your completed (working) Fragment2SRC code

Please find ***Fragment1-SRC-myAnswers.txt*** file in **Lab 6** repository.

2.2 Describe the difference between the Bcc and BLcc instructions, and why the difference is important.

BLcc is used to call subroutines, it saves the return address in R14 (the Link Register) before branching (R14 $\leftarrow$ R15).

2.3 Briefly describe the programming conventions associated with subroutines that are used in this course.

R0 – R3 will be used to pass parameter arguments during invocation. R0 will be used for the first (leftmost) parameter, R1 for the second parameter, etc. Using only 4 (max.) registers to pass arguments limits the number of parameters that a subroutine can have. This course will not be concerned with how to pass more than 4 arguments (it would involve using some memory to store the extra arguments). R0 will also be used to return the return value.