

CS6461 Project Part 2 – Design Notes

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GUI Design

CiscGUI

GPR 0

0000000000000000

LD

GPR 1

0000000000000000

LD

GPR 2

0000000000000000

LD

GPR 3

0000000000000000

LD

IXR 1

0000000000000000

LD

IXR 2

0000000000000000

LD

IXR 3

0000000000000000

LD

PC

000000000000

LD

MAR

000000000000

MBR

0000000000000000

IR

0000000000000000

MFR

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0

1

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3

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7

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11

12

13

14

15

Operation

GPR

IXR

I

Address

IPL

Store

Load

Run

SS

Mem Console

Output Console

IN Instruction GUI User Prompt:

CiscGUI

GPR 0

0000000000000000

LD

GPR 1

0000000000000000

LD

GPR 2

0000000000000000

LD

GPR 3

0000000000000000

LD

IXR 1

0000000000000000

LD

IXR 2

0000000000000000

LD

IXR 3

0000000000000000

LD

PC

000000000110

LD

MAR

000000000000

MBR

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IR

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MFR

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1

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3

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8

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10

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12

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14

15

Operation

GPR

IXR

I

Address

IPL

Store

Load

Run

SS

Mem Console

File loaded, please click ss or run button to run the program

Input

?

Enter in a number:

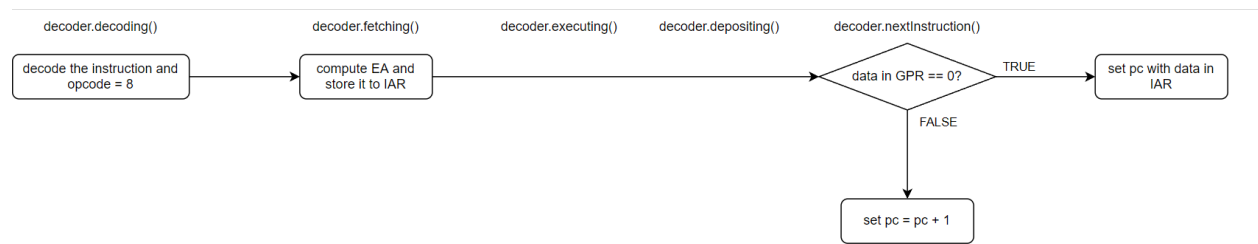
OK

Cancel

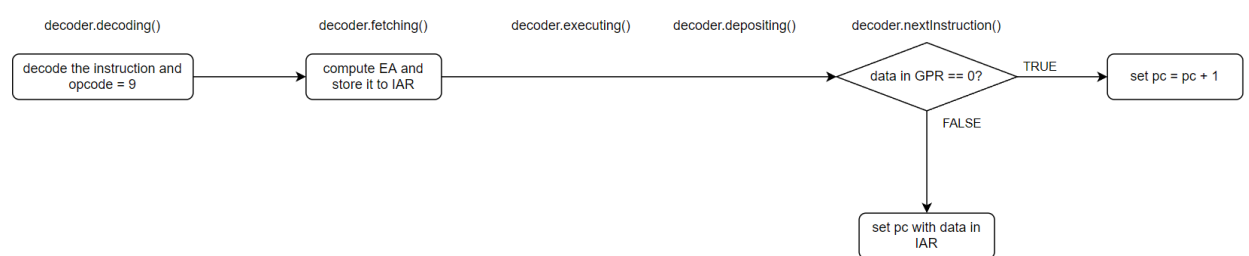
Output Console

Output Console

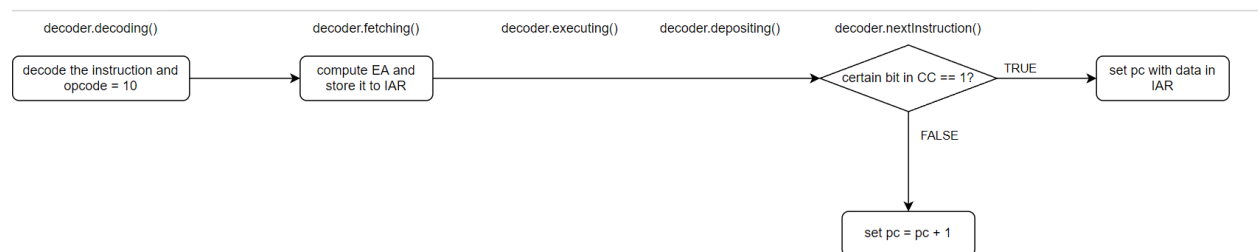
Jump If Zero (JZ) Instruction:



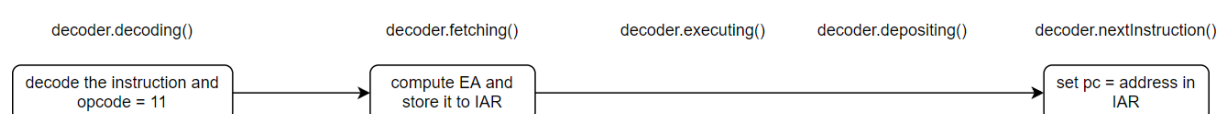
Jump if Not Equal (JNE) Instruction:



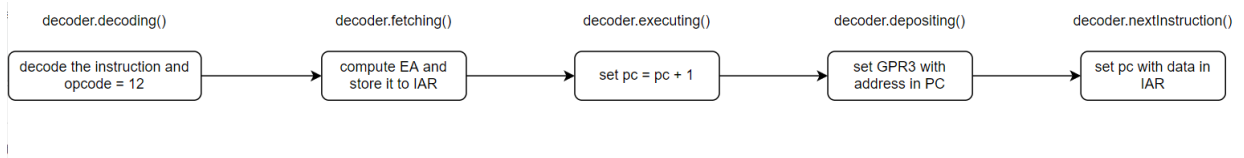
Jump if Condition (JCC) Instruction:



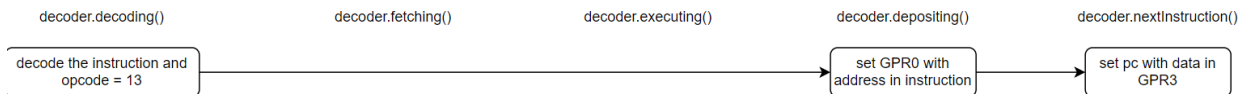
Unconditional Jump to Address (JMA) Instruction:



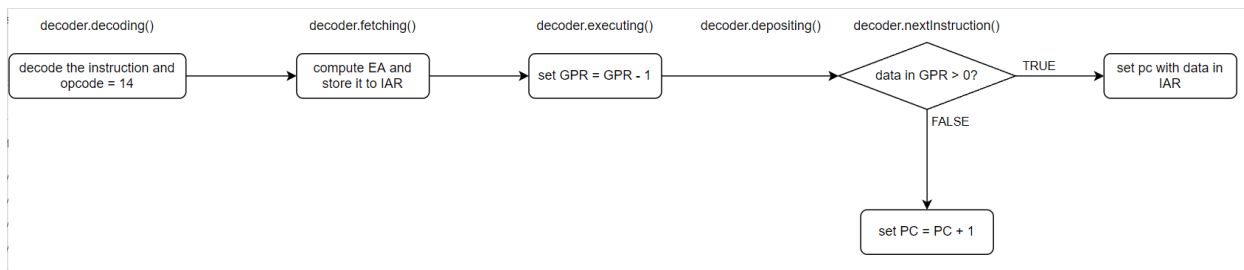
Jump and Save Return Address JSR Instruction:



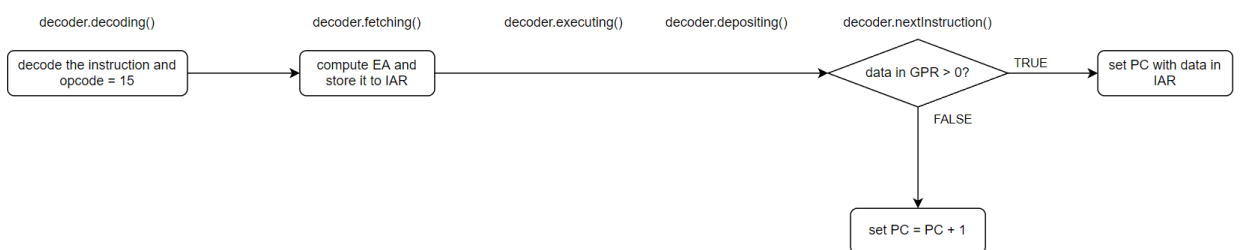
Return From Sub-Routine (RFS) Instruction:



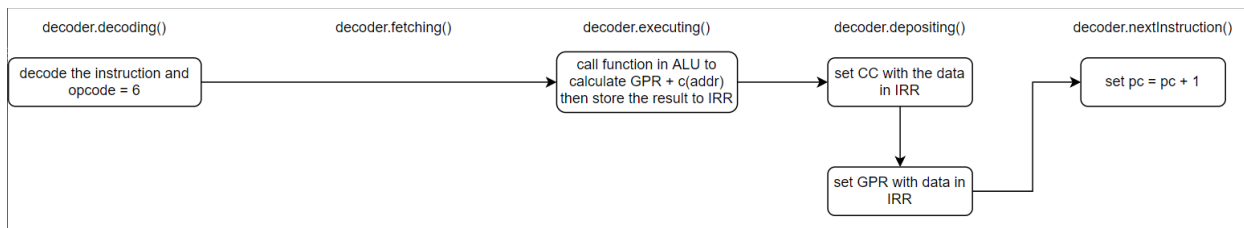
Subtract One and Branch (SOB) Instruction:



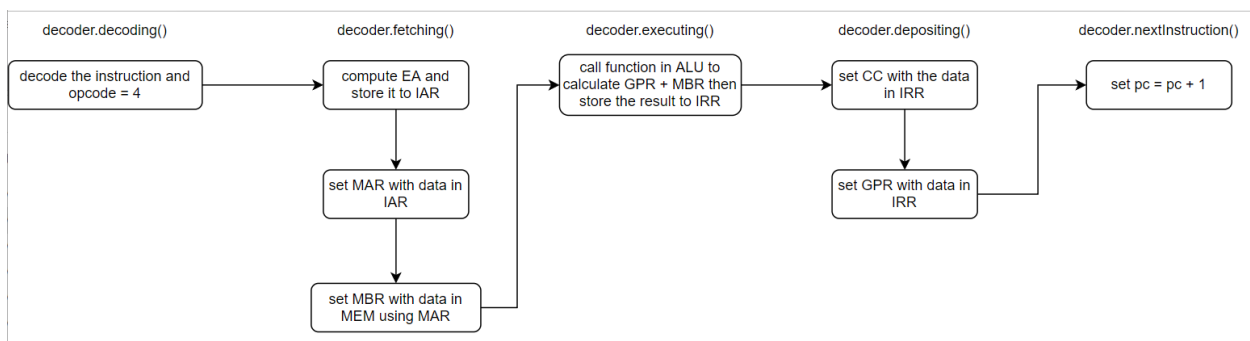
Jump Greater Than or Equal to (JGE) Instruction:



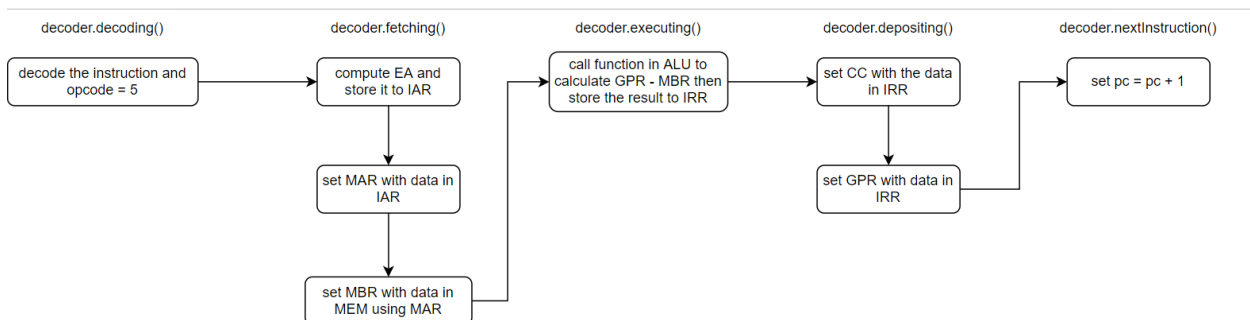
Add Immediate to Register (AIR) Instruction:



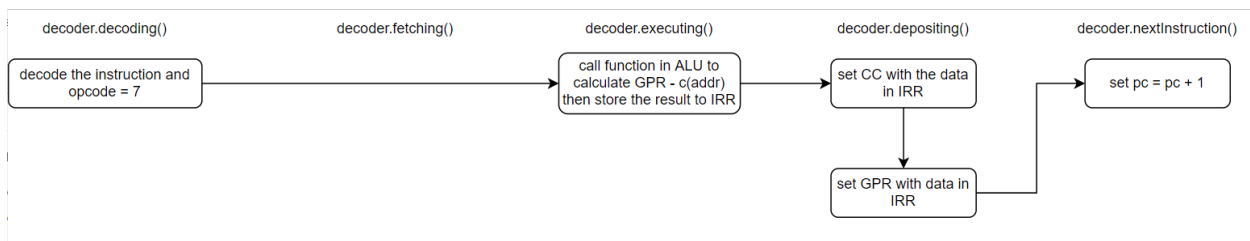
Add Memory to Register (AMR) Instruction:



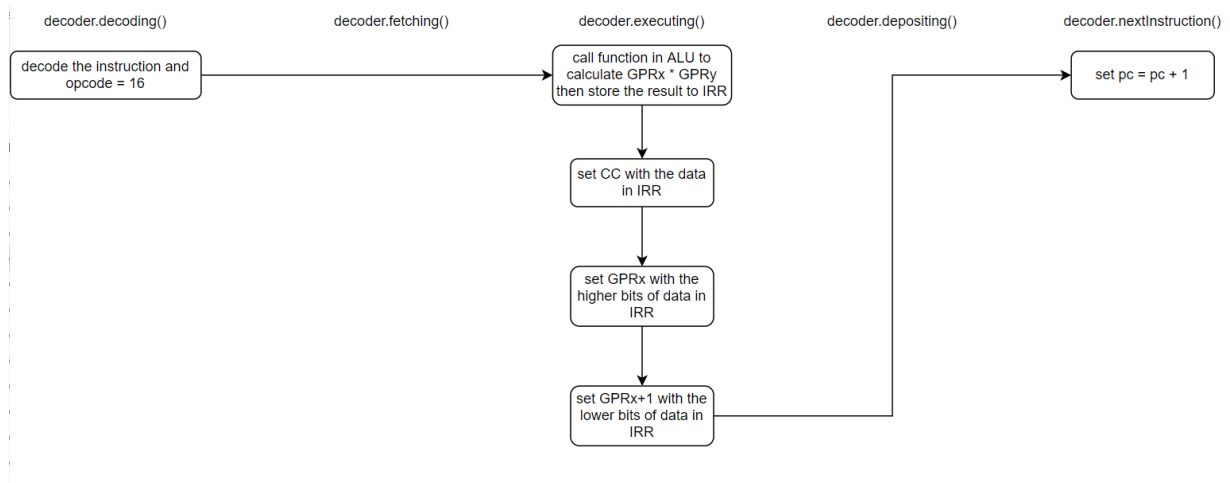
Subtract Memory from Register (SMR) Instruction:



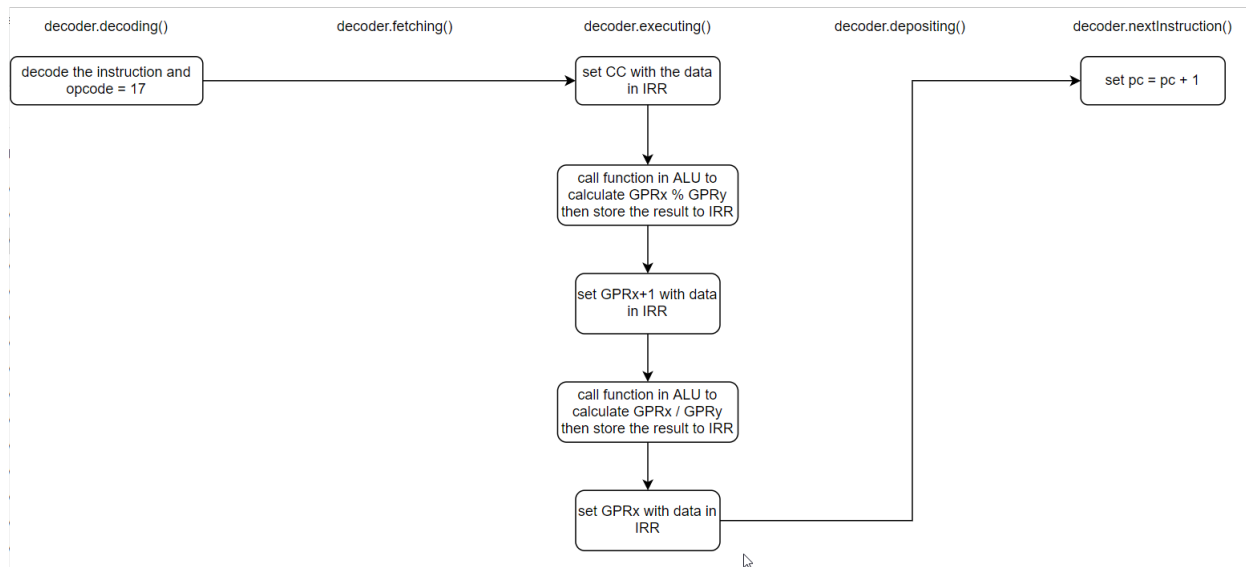
Subtract Immediate from Register (SIR) Instruction:



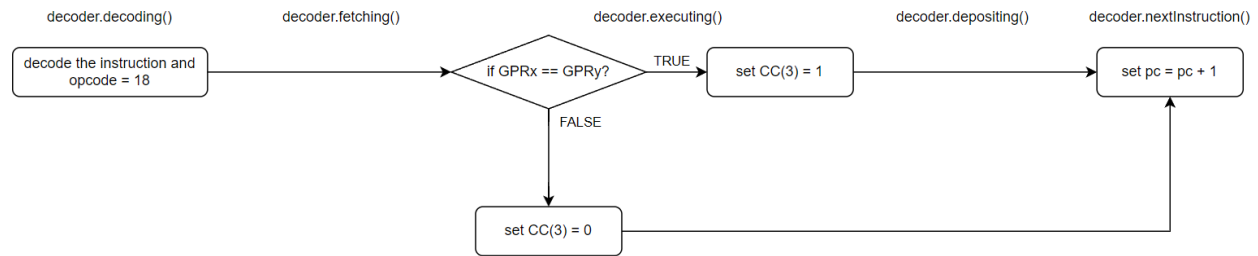
Multiply Register by Register (MLT) Instruction:



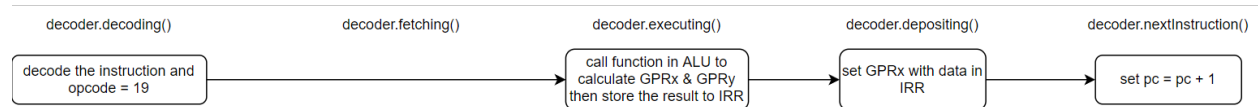
Divide Register by Register (DVD) Instruction:



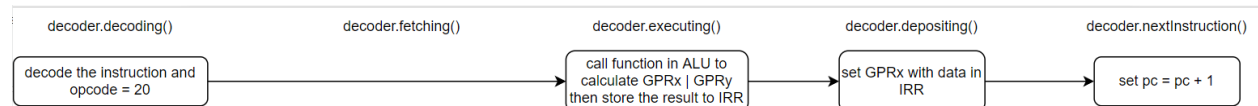
Test Equality of Register with Register (TRR) Instruction:



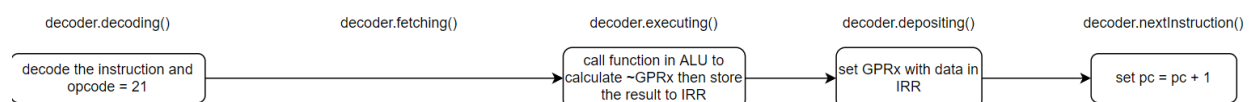
Logical And of Register with Register (AND) Instruction:



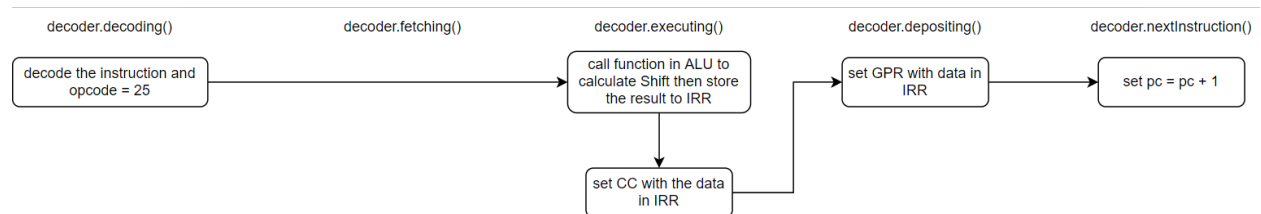
Logical Or of Register with Register (ORR) Instruction:



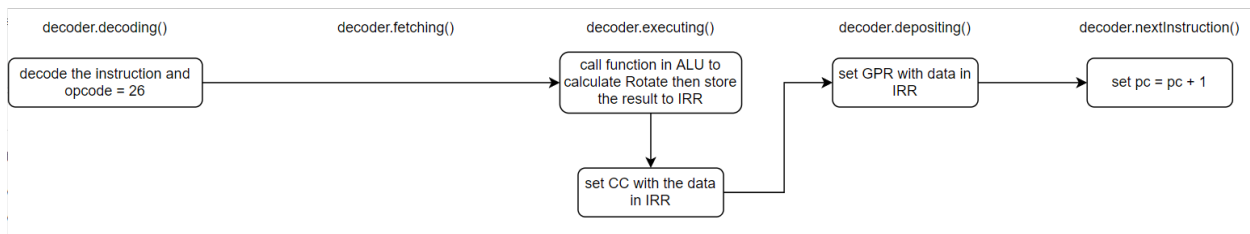
Logical Not of Register with Register (NOT) Instruction:



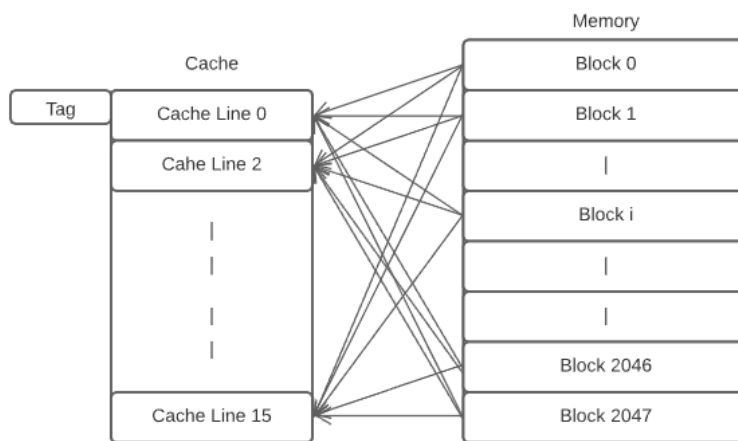
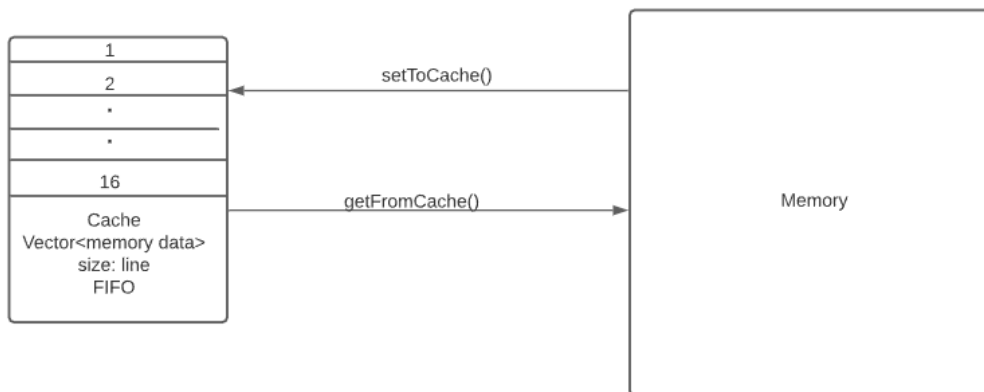
Shift Register by Count (SRC) Instruction:



Rotate Register by Count (RRC) Instruction:



Cache design:



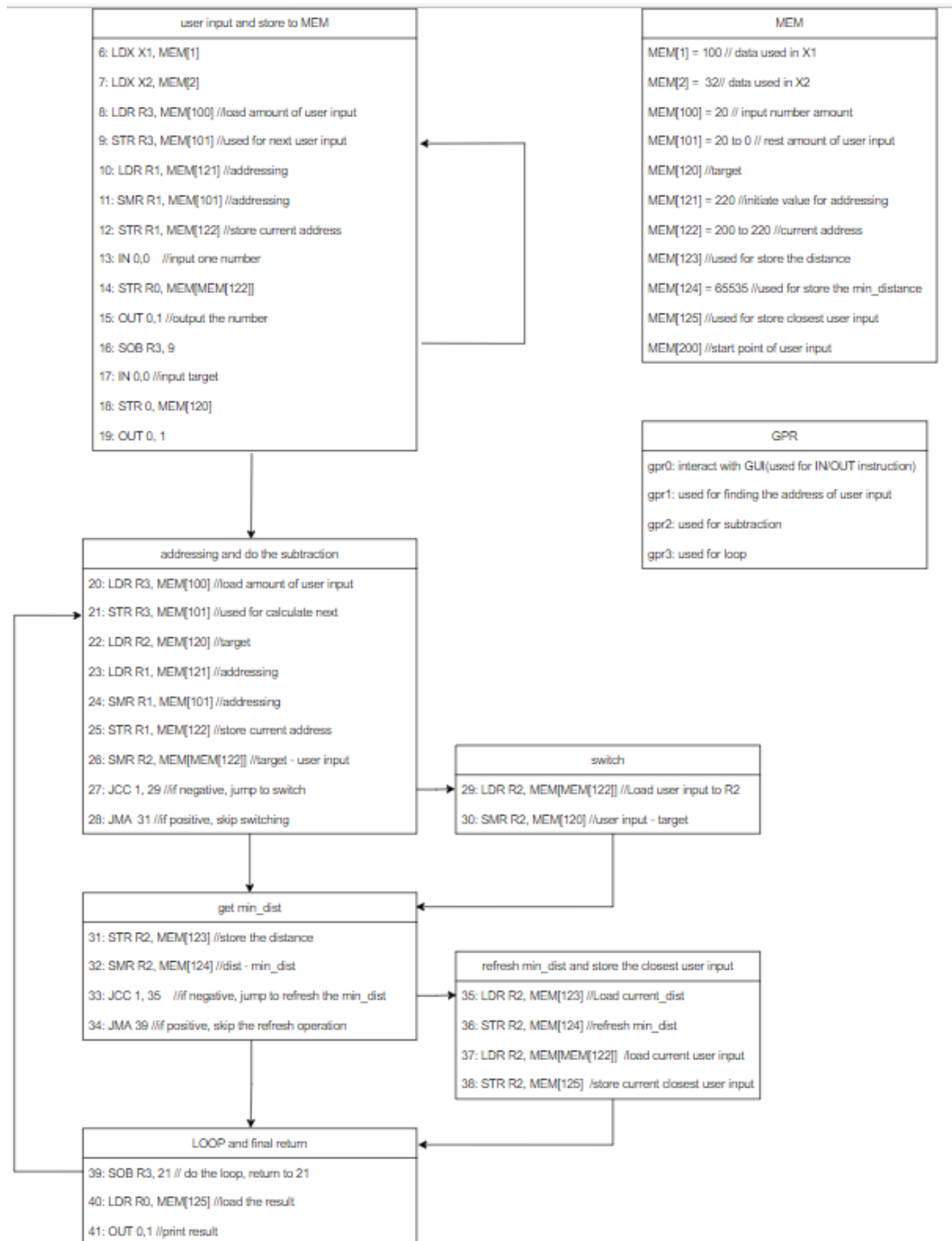
Fully associative cache

Memory Size: 2048 bytes
 Memory Block Size: 16 bytes
 Cache Size: 256 bytes
 Block Size: 16 bytes
 Number of Cache Lines: 16



Program 1 Flowchart

Refer to the file “program1.drawio.svg” for a clearer look.



Class Diagram:

Please refer to the file “Class-Diagram-Version2” that will be included in our Submission Folder.