**Cameron Mathis**

Stack Machine:

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Instruction:

OP code Memory Address

8 bits 24 bits

Programs:

.text

PUSH X 0x01200000

PUSH X 0x01200000

PUSH X 0x01200000

MULT 0x04000000

PUSH A 0x01200001

MULT 0x04000000

PUSH B 0x01200002

PUSH X 0x01200000

MULT 0x04000000

PUSH C 0x01200003

PUSH 0x03000000

ADD 0x03000000

POP 0x02000000

END 0x05000000

.data

X:3 0x00200000:3

A:7 0x00200001:7

B:5 0x00200002:5

C:4 0x00200003:4

Code Size: 68 bytes

Accumulator:

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Instruction:

OP code Memory Address

8 bits 24 bits

Programs:

.text

LOAD X 0x01200000

MUL X 0x04200000

MUL A 0x04200001

STO S1 0x02300000

LOAD B 0x01200002

MUL X 0x04200000

STO S2 0x02300001

LOAD C 0x01200003

ADD S1 0x03300000

ADD S2 0x03300001

END 0x05000000

.data

X:3 0x00200000:3

A:7 0x00200001:7

B:5 0x00200002:5

C:4 0x00200003:4

Code Size: 60 Bytes

Code Size of MIPS program: 52 Bytes