;Assembly

;jr $a

ci8 $r1, 6

jr $r1

trap

trap

trap

trap

bnz $r1, t1

trap

trap

;addi $d, $s

t1:

ci8 $r1, 6

ci8 $r2, -6

addi $r1, $r2

bz $r1, t2

trap

;addii $d, $s

t2:

cii $r1, 0xff

cii $r2, -0xff

addii $r1, $r2

bz $r1, t3

trap

;addp $d, $s

t1p:

ci8 $r1, 6

ci8 $r2, -6

addp $r1, $r2 ; same effect as addi in current implementation

bz $r1, t2p

trap

;addpp $d, $s

t2p:

cii $r1, 0xff

cii $r2, -0xff

addpp $r1, $r2 ; same effect as addii in current implementation

bz $r1, t3p

trap

;and $d, $s

t3:

ci8 $r1, 7

ci8 $r2, 3

and $r1, $r2

ci8 $r0, -3

addi $r1, $r0

bz $r1, t4

trap

;anyi $d

t4:

ci8 $r1, 1

ci $r2, -0xffff

anyi $r1

addi $r1, $r2

bz $r1, t5

trap

t5:

ci8 $r1, 0

ci $r2, 0

anyi $r1

addi $r1, $r2

bz $r1, t6

trap

;anyii $d

t6:

cii $r1, 1

cup $r1, 0

ci $r2, -0x00ff

anyii $r1

addi $r1, $r2

bz $r1, t7

trap

;bnz $c, addr

t7:

ci8 $r1, 1

bnz $r1, t8

trap

;bz $c, addr

t8:

ci8 $r1, 0

bz $r1, t9

trap

;ci $d, c16

t9:

ci $r1, 1

ci8 $r2, -1

addi $r1, $r2

bz $r1, t10

trap

t10:

ci $r1, -0x0101

cii $r2, 0x01

addi $r1, $r2

bz $r1, t11

trap

t11:

ci $r1, 0x1234

cii $r2, 0x34

cup $r2, 0x12

addi $r1, $r2

bz $r1, t12

;ci8 $d, c8

;cii $d, c8

;cup $d, c8

;invp $d

t3p:

ci8 $r1, 1

invp $r1 ; this sets the value to 0 in our current implementation

bz $r1, t4p

trap

;invpp $d

t4p:

cii $r1, 0x11

invpp $r1 ; this sets the value to 0 in our current implementation

bz $r1, t5p

trap

;jmp addr

t12:

ci8 $sp, 1

jmp t13

trap

trap

trap

;jnz $d, addr

t13:

ci8 $r1, 1

jnz $r1, t14

trap

;jz $d, addr

t14:

ci8 $r1, 0

jz $r1, t15

trap

;muli $d, $s

t15:

ci8 $r1, 3

ci8 $r2, 3

ci8 $r3, -9

muli $r1, $r2

addi $r1, $r3

bz $r1, t16

trap

;mulii $d, $s

t16:

cii $r1, 3

cii $r2, 3

cii $r3, -0x09

mulii $r1, $r2

addii $r1, $r3

bz $r1, t17

trap

;mulp $d, $s

t5p:

ci8 $r1, 3

ci8 $r2, 3

ci8 $r3, -9

mulp $r1, $r2 ; same effect as muli in current implementation

addp $r1, $r3

bz $r1, t6p

trap

;mulpp $d, $s

t6p:

cii $r1, 3

cii $r2, 3

cii $r3, -0x09

mulpp $r1, $r2 ; same effect as mulii in current implementation

addpp $r1, $r3

bz $r1, t7p

trap

;i2p $d

t7p:

ci8 $r1, 3

ci8 $r2, -3

i2p $r1

addp $r1, $r2

bz $r1, t8p

trap

;ii2pp $d

t8p:

cii $r1, 3

cii $r2, -3

ii2pp $r1

addpp $r1, $r2

bz $r1, t9p

trap

;negi $d

t17:

ci8 $r1, 7

ci8 $r2, 7

negi $r1

addi $r1, $r2

bz $r1, t18

trap

;negii $d

t18:

cii $r1, 7

cii $r2, 7

negii $r1

addii $r1, $r2

bz $r1, t19

trap

;not $d

t19:

ci $r1, 0xf0f0

ci $r2, -0x0f0f

not $r1

addi $r1, $r2

bz $r1, t20

trap

;or $d, $s

t20:

ci8 $r1, 0x01

ci8 $r2, 0x02

ci8 $r3, -0x03

or $r1, $r2

addi $r1, $r3

bz $r1, t21

trap

;p2i $d

t9p:

ci8 $r1, 3

ci8 $r2, -3

p2i $r1

addi $r1, $r2

bz $r1, t10p

trap

;pp2ii $d

t10p:

cii $r1, 3

cii $r2, -3

pp2ii $r1

addii $r1, $r2

bz $r1, lasttest

trap

;shi $d, $s

t21:

ci8 $r1, 1

ci8 $r2, -4

ci8 $r3, 2

shi $r1, $r3

addi $r1, $r2

bz $r1, t21a

trap

t21a:

ci8 $r0, 0

cup $r0, 0x80

ci8 $r1, 1

shi $r0, $r1

bz $r0, t22

trap

t22:

ci8 $r1, 4

ci8 $r2, -1

ci8 $r3, -2

shi $r1, $r3

addi $r1, $r2

bz $r1, t23

trap

;shii $d, $s

t23:

cii $r1, 1

cii $r2, -4

cii $r3, 2

shii $r1, $r3

addii $r1, $r2

bz $r1, t24

trap

t24:

cii $r1, 4

cii $r2, -1

cii $r3, -2

shii $r1, $r3

addii $r1, $r2

bz $r1, t25

trap

;slti $d, $s

t25:

ci8 $r1, 0

ci8 $r2, 1

slti $r1, $r2

bnz $r1, t26

trap

t26:

ci8 $r1, 1

ci8 $r2, 0

slti $r1, $r2

bz $r1, t27

trap

;sltii $d, $s

t27:

cii $r1, 0

cii $r2, 1

sltii $r1, $r2

negii $r2

addii $r1, $r2

bz $r1, t28

trap

t28:

cii $r1, 1

cii $r2, 0

sltii $r1, $r2

bz $r1, t29

trap

;trap

;xor $d, $s

t29:

ci $r1, 0x1111

ci $r2, 0x3333

ci $r3, -0x2222

xor $r1, $r2

addi $r1, $r3

bz $r1, t30

trap

;ld $d, $s

t30:

ci8 $r2, 0

ci $r3, -0x7777 ; with value 7777 in VMEM1

ld $r1, $r2

addi $r1, $r3

bz $r1, t31

trap

;st $d, $s

t31:

ci8 $r1, 0x7654

ci8 $r2, 1

st $r1, $r2

ld $r3, $r2

negi $r1

addi $r1, $r3

bz $r1, t32

trap

;st, then immediately ld

t32:

ci8 $r0, 3

ci8 $r1, 0

ci8 $r2, 1

st $r1, $r0

ld $r2, $r0

bz $r2, t1p

lasttest:

cii $r0, 0x42

trap