# MIPS Single Cycle Processor Emulator Project

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## Description

In this project, you will create a simple MIPS simulator. Your simulator will read a binary file containing a MIPS program and execute that program. This will occur in two steps. First, your program will generate the assembly code for the given MIPS program (disassembler). Second, your program will create an instruction-by-instruction simulation of the MIPS program. This simulation will execute instructions sequentially (non-pipelined) and output the contents of all registers and memory (the state of the processor and memory) after each instruction. You will not have to implement exception/interrupt handling

You will be given the expected output for each input program. Your output must exactly match the expected output. The program will be graded simply by using the diff program. The diff program simply lists the differences between two files. Your output should have no differences with the expected output. We will suppress white space differences, so if you have a space instead of a tab, that is OK.

The command to run diff and suppress white space differences is the following:

diff -w

Your disassembler can be reused for the next project, so try to write it in a way such that you can separate it from your code to execute the program. In fact, it is easier to write and debug the disassembler first, then write the emulation portion of the project.

## Implementation

You may implement this project in any programming language of your choosing. You MUST include instructions in a README file that indicate how to compile (if necessary) and run your program. You MUST include a makefile to compile the code if it is in a language that requires compilation. Examples are linked on the course web site. Your code will be graded on linux on the home server. The only reason it will not be graded there is if you use such an obscure language that home does not have the correct compilers/interpreters for it. C/C++, and Java program must be able to run on home. You may develop locally, then test on home at the end. This program should require NO system libraries, except I/O, so there should be no trouble.

#### **Details**

Refer to the MIPS instruction set architecture PDF that is posted along with the course notes on the course website. It provides the details for all MIPS instructions. **NOTE that we are making the following changes to the instruction set architecture:** 

Instead of a 6 bit opcode, we will use a 5 bit opcode that is preceded by a valid bit. The valid bit will be set to 1 if the instruction is valid and should be executed. If the valid bit is set to 0, then the instruction has no effect (it is effectively a NOP). The opcodes will be the same as those in the MIPS instruction set, just ignore the most significant bit (the first bit). We will not change the functionality of any instruction, simply we use this convention for the opcode. The table below illustrates this change:

Bit 31	Bits 30 - 26	Bits 25 - 0
Valid bit	Opcode	The rest of the instruction

A suggestion to make coding the program easier. First, read the entire file and simply print if each instruction is valid or not. This will force you to get the general structure of the disassembler in place and debugged before you begin the more complicated step of disassembly.

You will be given an input file containing a sequence of 32 bit instruction words. Assume that the first instruction is at memory address 96. The final instruction in an instruction sequence is ALWAYS a "BREAK" instruction. Following the break instruction is a sequence of 32 bit 2's compliment signed integers for the program data. These continue until the end of file.

Your simulator/disassembler must support the following MIPS instructions. Check the MIPS manual for details on instruction representation and operation for each instruction.

```
J, JR, BEQ, BLTZ
ADD, ADDI, SUB
SW, LW
SLL, SRL
MUL,
AND, OR,
MOVZ
NOP
```

#### Input

Your program must accept command line arguments for execution. The following arguments must be supported (Executable named "mipssim"):

```
mipssim -i INPUTFILENAME -o OUTPUTFILENAME
```

Your program will produce 2 output files. One named OUTPUTFILE-NAME\_sim.txt, which contains the simulation output, and one named OUT-PUTFILENAME\_dis.txt, which contains the disassembled program code for the input MIPS program.

Your program will be graded both with the sample input and output provided to you, and with input and output that is not provided to you. It is recommended you construct your own input programs for testing.

#### Output

Your program will produce 2 output files.

- One named OUTPUTFILENAME\_sim.txt, which contains the simulation output
- One named OUTPUTFILENAME\_dis.txt, which contains the disassembled program code for the input MIPS program.

The disassembled output file should contain one line per word in the input file. It should be separated into 4 columns, each separated by **tab character**. The columns contain the following information:

- 1. The binary representation of the instruction word. If the word is an instruction (as opposed to memory data after the BREAK instruction), the instruction should be split into seven groups of digits: the valid bit, the opcode bits, four groups of 5 bits, and a final group of 6 bits.
- 2. The address of the memory location (in decimal)
- 3. The disassembled instruction opcode
- 4. If it is an instruction, print the operation, followed by a tab character, then print each argument separated by a comma and a space (".").

The simulation file must have the following format:

- 20 equal signs and a newline
- cycle: [cycle number] [tab] [instruction address] [tab] [instruction string (same as step 4 above)]
- [blank lane]
- registers:
- r00: [tab] [integer value of R00][tab] [integer value of R01][tab] ... [integer value of R07]
- r08: [tab] [integer value of R08][tab] [integer value of R09][tab] . . . [integer value of R15]
- $\bullet$ r<br/>16: [tab] [integer value of R16][tab] [integer value of R17][tab] . . . [integer value of R23]
- $\bullet\,$ r<br/>24: [tab] [integer value of R24][tab] [integer value of R25][tab] . . . [integer value of R31]
- [blank line]

- [data address]: [tab] [show 8 data words, with tabs in between]
- ... [continue until last data word]

Hint: Spend some time creating an output function or class or module or whatever fits your language of choice that handles printing out the various data in this format. Spending a little time to do it right in the beginning will save you a lot of time later. Another hint, the register file and memory can simply be implemented as arrays. Go ahead and make them global variables so you don't have to pass them around to a bunch of functions. This just makes the code a little more simple to write.

Instructions and arguments should be in capital letters. All integer values should be in decimal. Immediate values should be preceded by a # sign. Be careful and consider which instructions take signed values and which take unsigned values. Be sure to use the correct format depending on the context.

You output will be graded with the diff command. Test your output against the provided sample outputs! Any differences reported by the diff command are assumed to be incorrect output!

Sample files will be provided with the following extensions:

- $\bullet$  .c C code
- .mips the compiled version of the C code
- .bin the binary version of the .mips file
- sample output files
- a file named similar to sample\_bin.txt which is a text version of the .bin file for your reference. Note that your program must accept the .bin file, not the text version.

#### What to Turn In

- 1. Your source files, in ZIP or TAR format.
- 2. A README file in PLAIN TEXT FORMAT that contains the names and email addresses of your group members and instructions for compiling and running your program. The README file should NOT have a file extension (e.g., .txt).
- 3. A **MAKEFILE** that will compile your program using the default make target (all:).

You may use any programming language you like. If your language of choice is NOT available on the home server, you must demo it to me in my office. **The executable must be named "mipssim"** once the program is compiled. If your programming language uses an interpreter to execute the program, indicate that in the README file. DO NOT turn in any sample input files or any previously generated output files.

### Grading

A valid attempt at the project that compiles and produces some output is worth 70 points. Each produced disassembly and simulation file is worth 5 points. There are 3 bin files from which 3 disassembly files are produced and 3 simulation files.

You will receive 5 points for a produced file if it matches the provided file EXACTLY (with the exception of white space differences).

Programs that do not compile or that do not produce any output will get 0 points. If you do not follow the directions in regards to command line arguments or expected behavior, the penalty is at the discretion of the grader.

## Input and Expected Output

The remainder of the document contains PDF versions of the expected output. The input files and text files of the expected output will be available on the course webpage. The final two pages of this document contain programs to convert text files containing binary strings to binary files, and vice versa. Use those programs to develop your own MIPS executables for debugging and testing.

Note that your program MUST USE A BINARY FILE AS INPUT. The test1 example contains a text representation of the input file as well as the c version of the program. These are there for informational purposes only. Your program only needs to read the binary file and produce the disassembled file and simulation file.

```
Page 1 of 1
EX_readBinaryFile.cpp
#include <iostream>
#include <unistd.h>
#include <fcntl.h>
#include <iomanip>
using namespace std;
int main()
           char buffer[4];
           int i;
char * iPtr;
iPtr = (char*)(void*) &i;
           int FD = open("test2.bin", O_RDONLY);
           int amt = 4;
           while( amt != 0 )
{
                       amt = read(FD, buffer, 4);
if( amt == 4)
                                   iPtr[0] = buffer[3];
iPtr[1] = buffer[2];
                                   iPtr[2] = buffer[1];
                                   iPtr[3] = buffer[0];
cout << "i = " <<hex<< i << endl;</pre>
                       }
            }
```

```
EX_readBinaryFile.java
                                                                                               Page 1 of 1
import java.io.BufferedInputStream;
import java.io.DataInputStream;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.IOException;
class EX_readBinaryFile
     public static void main(String[] args) throws IOException, FileNotFoundException
          File file = new File("test1.bin");
         byte[] fileData = new byte[(int) file.length()];
DataInputStream dis = new DataInputStream(new FileInputStream(file));
          dis.readFully(fileData);
          dis.close();
          for( int i = 0; i < fileData.length; i+=4 )
               int x = 0;
               x = x \mid ((fileData[i] \& 0x000000FF) << 24);
              x = x | ((fileData[i+1] & 0x000000FF) << 16);
x = x | ((fileData[i+2] & 0x000000FF) << 8);
x = x | (fileData[i+3] & 0x000000FF);
               System.out.println(x);
               System.out.println((x>>26) & 0x0000003F);
               System.out.println(((x << 6)>>27) & 0x = 0 = 0 = 0
              System.out.println( Integer.toHexString(x) );
          }
     }
}
```

```
EX_readBinaryFile.py
                                                                                         Page 1 of 1
import sys
import os
import struct
# convert ints to signed
def imm16BitUnsignedTo32BitSignedConverter( num ):
         negBitMask = 0x00008000
         # if the 16th bit is 1, the 16 bit value is negative if( negBitMask & num ) > 0 :
                  # put 1s in the upper 16 bits
                  num = num | 0xFFFF0000 # now perform a 2's complement conversion
                  # flip the bits using XOR
num = num ^ 0xffffffff
                   # add 1
                  num = num + 1
                   \ensuremath{\text{\#}} num is now the positive version of the number
                  \mbox{\#} multiply by -1 to get a signed integer with the negative number num = num * -1
         return num
# how to read binary file and get ints
inFile = open( sys.argv[1], 'rb' )
# get the file length
inFileLen = os.stat( sys.argv[1] )[6]
inFileWords = inFileLen / 4
instructions = []
address = []
# read the words from the file
for i in range( inFileWords ) :
         instructions.append( struct.unpack('>I', inFile.read(4))[0] )
address.append( 96 + (i*4) )
         \ensuremath{\text{\#}} use I to hold the current instruction
         I = instructions[ len(instructions)-1 ]
         # get IMMEDIATE bits
         IMM = ((I << 16) \& 0xffffffff ) >> 16
         IMM = imm16BitUnsignedTo32BitSignedConverter( IMM )
         print bin(I)
         print IMM
         # get the opcode bits
         OP = I >> 26
         print OP
         # get the RS bits
         RS = ((I << 6) \& 0xFFFFFFFF) >> 27
         print RS
         print '----'
inFile.close()
```

```
b2t.c
                                                                          Page 1 of 1
/****************
This program converts a binary file to a file
containing string representations of the 1's and 0's
in the binfary file.
// gcc -o b2t b2t.c
// Usage ./a.out < inputfile > outputfile
#include<stdio.h>
main( int argc, char** argv)
    if ( argc >1 )
       fprintf(stderr, "Usage: ./a.out < input_txt > output_bin\n");
    char word[32];
    unsigned char vals[4];
   unsigned char w, div, b; unsigned char tot;
    w = 0;
    while( scanf( "%c", &tot) != EOF )
           div = 128;
           for( b=0; b<8; b++ )
               if( tot >= div)
               {
                   printf( "1" );
                   tot -= div;
               else
               printf( "0");
div = div/2;
           }
          w ++;
if ( w == 4 )
          {
              printf("\n");
              w = 0;
    }
```

```
t2b.c
                                                                              Page 1 of 1
/****************
This program converts a text file containing text
strings of 1's and 0's to a binary file.
for example, the text string:
000000010000000011111111110101010
would result in the following binary sequence (written as hex here) in the output file:
0100FFAA
 **********************************
// gcc -o t2b t2b.c
// Usage ./a.out < inputfile > outputfile
#include<stdio.h>
main( int argc , char **argv )
    if(argc > 1)
    fprintf(stderr, "Usage: ./a.out < input_txt > output_bin\n");
    char word[32];
    unsigned char vals[4];
    int w, mul, b;
    unsigned char tot ;
    while( scanf(" %s", word ) > 0 )
        for( w=0; w<4; w++ )
            mul = 128;
tot = 0;
            for( b=0; b<8; b++ )
                tot += (word[w*8+b]=='1')*mul;
                mul = mul/2;
            fputc( tot, stdout);
       }
    }
```

test1\_bin.txt Page 1 of 1

```
test1_c.txt
int A[11] = {-1, -2, -3, 1, 2, 3, 0, 0, 5, -5, 6};
int B[11] = { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0};
int C = 1;

main()
{
   int i;
   for (i=10; i>=0; i--) {
      if (A[i] >= 0)
            A[i] = B[i] - C;
      else
            A[i] = B[i] + C;
   }
}
```

Page 1 of 1 test1\_dis.txt 0 01000 00000 00001 00000 00000 001010 Invalid Instruction 01000 00000 00001 00000 00000 001010 100 ADDI R1, R0, #10 01011 00000 00001 00000 00100 001000 104 SW R1, 264(R0) 0 00010 10000 00000 00000 00000 000000 Invalid Instruction 00011 00000 00001 00000 00100 001000 112 LWR1, 264(R0) 00001 00001 00000 00000 00000 001100 116 BLTZ R1, #48 00000 00000 00001 01010 00010 000000 120 SLL R10, R1, R3, 172(R10) 00011 01010 00011 00000 00010 101100 LW 124 R4, 216(R10) 00011 01010 00100 00000 00011 011000 128 LW R5, 260(R0) 1 00011 00000 00101 00000 00100 000100 132 LW00001 00011 00000 00000 00000 000010 BLTZ R3, #8 136 00000 00100 00101 00110 00000 100010 140 SUB R6, R4, R5 00010 00000 00000 00000 00000 100110 144 #152 J 00000 00100 00101 00110 00000 100000 ADD R6, R4, R5 148 R6, 172(R10) 1 01011 01010 00110 00000 00010 101100 152 SW 1 01000 00001 00001 11111 11111 111111 156 ADDT R1, R1, #-1 1 01011 00000 00001 00000 00100 001000 160 SW R1, 264(R0) 1 00010 00000 00000 00000 00000 011100 164 υŢ #112 1 00000 00000 00000 00000 00000 001101 168 BREAK 172 -1 176 -2 180 -3 184 188 2 00000000000000000000000000000011 192 196 200 0 204 5 208 000000000000000000000000000000000110 212 6 216 0 220 0 224 0 228 0 232 0 236 0 240 0 244 0 248 0 252 0 256 0 260 264 0

```
test1_mips.txt
                                                                                         Page 1 of 1
         ; Initially PC is set to 100; Data section is right after the code section
         .global _main
_main:
                  R1, R0, #10
R1, VAR_i(R0)
         ADDI
                                    ; init i
         SW
                                    ; store i
FOR_0:
                  R1, VAR_i(R0)
R1, END_FOR_0
         LW
         BLTZ
                                    ; i >= 0?
                                    ; get correct word boundary
; read A[i]
                  R10, R1, #2
R3, A(R10)
R4, B(R10)
         SLL
         LW
         LW
                                     ; read B[i]
                  R5, C(R0)
         LW
                                     ; read C
                  R3, ELSE_0
R6, R4, R5
                                    ; A[i] >= 0 ?
; B[i] - C
         BLTZ
         SUB
                  TAIL_0
ELSE_0:
         ADD
                  R6, R4, R5
                                    ; B[i] + C
TAIL_0:
         SW
                  R6, A(R10)
                                   ; rewrite A[i]
                  R1, R1, #-1
R1, VAR_i(R0)
                                    ; i--
         ADDI
         SW
         J
                  FOR_0
END_FOR_0:
         BREAK
Α:
         .word -1, -2, -3, 1, 2, 3, 0, 0, 5, -5, 6
в:
         .word 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
; let C be 1
         .word 1
VAR_i:
; for var i
         .word 0
```

test1_si									Page 1 of 32
cycle:1		ADDI	R1, R0	, #10					
register									
r00:	0	10	0	0	0	0	0	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	6	0	0	0	0	0	
236:	0	0	0	0	0	0	1	0	
=======									
cycle:2	104	SW	R1, 26	4(R0)					
register			_						
r00:	0	10	0	0	0	0	0	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	6	0	0	0	0	0	
236:	0	0	0	0	0	0	1	10	
======									
cycle:3	112	LW	R1, 26	4(R0)					
register									
r00:	0	10	0	0	0	0	0	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	6	0	0	0	0	0	
236:	0	0	0	0	0	0	1	10	
=======			D1 #4	0					
cycle:4	110	BLTZ	R1, #4	0					
register		1.0	0	0	0	0	0	0	
r00:	0	10	0	0	0	0	0	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0 0	0	0 0	0 0	0 0	0 0	0	
r24:	U	U	U	U	U	U	U	U	
data:	1	2	2	1	2	2	0	0	
172:	-1	-2 -5	-3	1	2	3	0	0	
204:	5		6	0	0	0	0	0	
236:	0	0	0	0	0	0	1	10	
======= cycle:5		SLL	R10, R	1, #2					
			.,						
register		1.0	0	0	0	0	0	0	
r00:	0	10	0	0	0	0	0	0	
r08:	0	0	40	0	0	0	0	0	
r16: r24:	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	

test1_s	im.txt								Page 2 of 32
data:		•	2			2		0	
172: 204:	-1 5	-2 -5	-3 6	1 0	2 0	3 0	0 0	0	
236:	0	0	0	0	0	0	1	10	
			Ü	Ü	O	Ü	_	10	
cycle:6		LW	R3, 1	72(R10)					
registe:	rs:								
r00:	0	10	0	6	0	0	0	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:					_	_	_		
172:	-1	-2	-3	1	2	3 0	0	0	
204: 236:	5 0	-5 0	6 0	0 0	0 0	0	0 1	0 10	
230.	U	U	U	U	U	U	1	10	
====== cycle:7		LW	R4, 2	16(R10)					
registe:	rs:								
r00:	0	10	0	6	0	0	0	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:					_	_	_		
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	6	0	0	0	0	0	
236:	0	0	0	0	0	0	1	10	
====== cycle:8		LW	R5, 2	50(R0)					
		Δ.,	103, 2	00(100)					
registe:		1.0	0	6	0	1	0	0	
r00: r08:	0	10 0	0 40	6 0	0 0	1 0	0 0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	6	0	0	0	0	0	
236:	0	0	0	0	0	0	1	10	
====== cycle:9		BLTZ	R3, #8	8					
registe:	rs:								
r00:	0	10	0	6	0	1	0	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	_	_	_	_	-	-	_		
172:	-1	-2	-3	1	2	3	0	0	
204: 236:	5 0	-5 0	6 0	0 0	0	0 0	0 1	0 10	
cycle:1	0	140	SUB	R6, R	4, R5				
registe									

cestr_	sim.txt	:							Page 3 of 3
r00:	0	10	0	6	0	1	-1	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
124.	U	U	U	U	U	U	U	U	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	6	0	0	0	0	0	
236:	0	0	0	0	0	0	1	10	
===== cycle:		144	J	#152					
		111	Ü	11111					
regist		1.0		_	•		-	0	
r00:	0	10	0	6	0	1	-1	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	6	0	0	0	0	0	
236:	0	0	0	0	0	0	1	10	
		======							
cycle:		152	SW	R6, 1	L72(R10)				
regist	ers:								
r00:	0	10	0	6	0	1	-1	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	-1	-2	-3	1	2	3	0	0	
204:	-1 5	-2 -5	-3 -1	0	0	0	0	0	
204: 236:	0	-5 0	0 -T	0	0	0	1	10	
230.	U	U	U	U	U	U	1	10	
===== cycle:		156	ADDI	R1. F	R1, #-1				
		130	ADDI	1(1, 1	(1, π 1				
regist		•				_	_	•	
r00:	0	9	0	6	0	1	-1	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	10	
		======							
cycle:	14	160	SW	R1, 2	264(R0)				
regist	ers:								
r00:	0	9	0	6	0	1	-1	0	
	0	0	40	0	0	0	0	0	
	0	0	0	0	0	0	0	0	
r08:	0	0	0	0	0	0	0	0	
r08: r16:									
r08: r16: r24:									
r08: r16: r24: data: 172:	-1	-2	-3	1	2	3	0	0	
r08: r16: r24: data:	-1 5	-2 -5	-3 -1	1 0	2	3	0	0 0	

test1_	sim.txt	:							Page 4 of 3
===== cycle:		164	J	#112					
cycle.	13	104	U	#112					
regist		0	0	_	0	1	1	0	
r00: r08:	0 0	9 0	0 40	6 0	0 0	1 0	-1 0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	9	
	======	======							
cycle:	16	112	LW	R1, 2	264(R0)				
regist	ers:								
r00:	0	9	0	6	0	1	-1	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	_	-	•	-	-	•		0	
172:	-1	-2	-3	1	2	3	0	0	
204: 236:	5 0	-5 0	-1 0	0 0	0 0	0 0	0 1	0 9	
			•	-		-	-	-	
<pre>cycle:</pre>		116	BLTZ	R1, ‡	‡ <b>4</b> 8				
regist	ers: 0	9	0	6	0	1	-1	0	
r00:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	9	
	======	======							
cycle:	18	120	SLL	R10,	R1, #2				
regist	ers:								
	0	9	0		0	1	-1	0	
r00:	0	0	36	0	0	0	0	0	
r08:	0	0	0	0	0	0	0	0	
r08: r16:		0	0	0	0	0	0	0	
r00: r08: r16: r24:	0								
r08: r16: r24: data:	0	2	2	1	0	2	0		
r08: r16: r24: data: 172:	0 -1	-2	-3	1	2	3	0	0	
r08: r16: r24: data: 172: 204:	0 -1 5	-5	-1	0	0	0	0	0	
r08: r16: r24: data: 172: 204: 236:	0 -1 5 0	-5 0							
r08: r16: r24: data: 172: 204: 236:	0 -1 5 0	-5 0	-1 0	0	0	0	0	0	
r08: r16: r24: data: 172: 204: 236: ====== cycle:	0 -1 5 0 =======	-5 0	-1	0	0	0	0	0	
r08: r16: r24: data: 172: 204: 236: ====== cycle: regist	0 -1 5 0 ====== 19 ers:	-5 0  124	-1 0 LW	0 0 R3, 1	0 0 172(R10)	0	0	0 9	
r08: r16: r24: data: 172: 204: 236: ===== cycle: regist r00:	0 -1 5 0 ======= 19 ers: 0	-5 0 ====== 124	-1 0 LW	0 0 R3, 1	0 0 172(R10)	0 0	0 1 -1	0 9	
r08: r16: r24: data: 172: 204: 236: ====== cycle: regist	0 -1 5 0 ====== 19 ers:	-5 0  124	-1 0 LW	0 0 R3, 1	0 0 172(R10)	0	0	0 9	

test1_	sim.txt								Page 5 of 32
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	9	
cycle:	20	128	LW	R4, 2	16(R10)				
regist									
r00:	0	9	0	-5	0	1	-1	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	9	
	======								
cycle:	21	132	LW	R5, 2	60(R0)				
regist	ers:								
r00:	0	9	0	-5	0	1	-1	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	9	
	:======	======							
cycle:		136	BLTZ	R3, #	8				
regist	erc:								
r00:	0	9	0	-5	0	1	-1	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	9	
	======								
cycle:	23	148	ADD	R6, R	14, R5				
regist			_		_		_		
r00:	0	9	0	-5	0	1	1	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	-5	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	9	
===== cycle:		152	SW		72(R10)				

test1_	sim.txt	<b>;</b>							Page 6 of 32
regist	ers:								
r00:	0	9	0	-5	0	1	1	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
124.	U	U	U	U	U	U	U	O	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	9	
=====	=====	======							
cycle:	25	156	ADDI	R1, R	11, #-1				
regist	ers:								
r00:	0	8	0	-5	0	1	1	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	9	
		======							
cycle:	26	160	SW	R1, 2	64(R0)				
regist	ers:								
r00:	0	8	0	-5	0	1	1	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:		_				_	_	_	
172:	-1	-2	-3	1	2	3	0	0	
204:	5	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	8	
cycle:	27	164	J	#112					
regist									
r00:	0	8	0	-5	0	1	1	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	1	-1	0	0	0	Ö	0	
236:	0	0	0	0	0	0	1	8	
=====	=====	======							
cycle:		112	LW	R1, 2	64(R0)				
regist	ers:								
r00:	0	8	0	-5	0	1	1	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
								_	
data:						2	^	^	
data: 172: 204:	-1 5	-2 1	-3 -1	1 0	2 0	3 0	0 0	0 0	

${\sf test1}_{-}$	sim.txt	:							Page 7 of 3
236:	0	0	0	0	0	0	1	8	
=====	======	======							
cycle:	29	116	BLTZ	R1, ‡	‡ <b>4</b> 8				
regist	ers:								
r00:	0	8	0	-5	0	1	1	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0 0	0 0	0 0	0 0	0 0	
r24:	0	U	U	U	U	U	U	U	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5 0	1 0	-1 0	0 0	0 0	0 0	0 1	0 8	
236:	U	U	U	U	U	U	1	8	
===== cycle:		120	SLL	R10.	R1, #2				
		_20		/	, "2				
regist r00:	ers: 0	8	0	-5	0	1	1	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	Ö	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	8	
				-2 1	100(010)				
cycle:	31	124	LW	R3, 1	L72(R10)				
regist									
r00:	0	8	0	5	0	1	1	0	
r08: r16:	0 0	0	32 0	0 0	0 0	0 0	0 0	0 0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	8	
		:=====							
cycle:	32	128	LW	K4, 2	216(R10)				
regist	ers:	0	0	-	0	-	-	0	
r00: r08:	0 0	8 0	0 32	5 0	0 0	1 0	1 0	0 0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	8	
		120			2601-5:				
cycle:	33	132	LW	R5, 2	260(R0)				
regist		0	0	_	6	_	_		
r00:	0	8	0	5	0	1 0	1	0	
r08: r16:	0 0	0	32 0	0 0	0 0	0	0 0	0 0	

	sim.txt	•							Page 8 of 3
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	8	
		======							
cycle:	34	136	BLTZ	R3, #	8				
regist									
r00:	0	8	0	5	0	1	1	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	8	
===== cycle:		140	SUB	R6, R	4 p5				
		140	БОВ	KO, K	4, KJ				
regist r00:	ers: 0	8	0	5	0	1	-1	0	
			32	0		0			
r08:	0	0			0		0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	8	
===== cycle:		144	J	#152					
сусте.	30	111	U	#132					
regist									
r00:	0	8	0	5	0	1	-1	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	5	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	8	
===== cycle:		152	SW	R6 1	72(R10)				
		102	2.1	1.0, 1	. 2 (1110)				
regist		0		_		_	_	•	
r00:	0	8	0	5	0	1	-1	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:					_				
172:	-1	-2	-3	1	2	3	0	0	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	8	
===== cycle:		156	ADDI	D1 -	1, #-1				

	sim.txt	:							Page 9 of 32
regist	ere:								
r00:	0	7	0	5	0	1	-1	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
124.	U	U	U	U	U	U	U	U	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	-1	1	-3 -1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	8	
230.	U	U	U	U	U	U	1	0	
=====		======							
cycle:		160	SW	R1.	264(R0)				
-1				,	( ,				
regist	ers:								
r00:	0	7	0	5	0	1	-1	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
					-	-	-		
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	7	
					-	-			
		======							
cycle:	40	164	J	#112					
regist		_	•	_	0				
r00:	0	7	0	5	0	1	-1	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	7	
250	Ü	ŭ	Ü	Ü	ŭ	ŭ	-	,	
		======							
cycle:	41	112	LW	R1,	264(R0)				
regist	erc:								
regist r00:	0	7	0	5	0	1	-1	0	
r08:	0	0	32	0	0	0	0	0	
rus: r16:	0	0	3 <i>2</i> 0	0	0	0	0	0	
							0	0	
r24:	0	0	0	0	0	0	U	U	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	7	
cycle:	42	116	BLTZ	R1,	#48				
roaiat	ora:								
regist r00:	ers: 0	7	0	E	0	1	1	0	
				5		1	-1	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	

test1_	sim.txt	:							Page 10 of 3
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	7	
		======							
cycle:	43	120	SLL	R10,	R1, #2				
regist	ers:								
r00:	0	7	0	5	0	1	-1	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	7	
=====	======	======							
cycle:	44	124	LW	R3, 1	72(R10)				
regist	ers:								
r00:	0	7	0	0	0	1	-1	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	7	
	======	======							
cycle:	45	128	LW	R4, 2	16(R10)				
regist	ers:								
r00:	0	7	0	0	0	1	-1	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	0	
204:	-1	1	-1	0	0	0	0	0	
	0	0	0	0	0	0	1	7	
236:		:======							
=====									
=====		132	LW	R5, 2	60(R0)				
===== cycle: regist	46				60(R0)				
===== cycle: regist r00:	46 ers: 0	7	0	0	0	1	-1	0	
===== cycle: regist r00: r08:	46 ers: 0	7 0	0 28	0	0	0	0	0	
===== cycle: regist r00: r08: r16:	46 ers: 0 0	7 0 0	0 28 0	0 0 0	0 0 0	0	0	0	
===== cycle: regist r00: r08: r16:	46 ers: 0	7 0	0 28	0	0	0	0	0	
regist r00: r08: r16: r24: data:	46 ers: 0 0 0 0	7 0 0 0	0 28 0	0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
===== cycle: regist r00: r08: r16: r24: data: 172:	46 ers: 0 0 0	7 0 0 0	0 28 0 0	0 0 0 0	0 0 0 0	0 0 0	0 0 0	0 0 0	
====== cycle: regist r00: r08: r16: r24: data: 172: 204:	46 ers: 0 0 0 0	7 0 0 0	0 28 0 0	0 0 0 0	0 0 0 0	0 0 0	0 0 0	0 0 0	
===== cycle: regist r00: r08: r16: r24:	46 ers: 0 0 0	7 0 0 0	0 28 0 0	0 0 0 0	0 0 0 0	0 0 0	0 0 0	0 0 0	
====== cycle: regist r00: r16: r24: data: 172: 204: 236:	46 ers: 0 0 0 0 -1 -1 0	7 0 0 0	0 28 0 0	0 0 0 0	0 0 0 0 0	0 0 0	0 0 0	0 0 0	
regist r00: r08: r16: r24: data: 172: 204: 236:	46 ers: 0 0 0 0 -1 -1 0 -1 47	7 0 0 0 0	0 28 0 0	0 0 0 0	0 0 0 0 0	0 0 0	0 0 0	0 0 0	
====== cycle: regist r00: r16: r24: data: 172: 204: 236:	46 ers: 0 0 0 0 -1 -1 0 -1 47	7 0 0 0 0	0 28 0 0	0 0 0 0	0 0 0 0 0	0 0 0	0 0 0	0 0 0	

test1_	sim.txt	;							Page 11 of 3
r16: r24:	0 0	0 0	0 0	0 0	0	0 0	0 0	0 0	
r24.	U	U	U	U	U	U	U	U	
data:	1	2	2	1	2	2	0	0	
172: 204:	-1 -1	-2 1	-3 -1	1 0	2 0	3 0	0 0	0 0	
236:	0	0	0	0	Ö	0	1	7	
===== cycle:		140	SUB	D6 1	R4, R5				
		140	200	RO, I	X4, KS				
regist		_		•	•			0	
r00:	0	7	0	0 0	0 0	1 0	-1	0	
r08: r16:	0 0	0 0	28 0	0	0	0	0 0	0 0	
r24:	0	0	0	0	0	0	0	0	
	Ü	Ü	Ü	Ü	Ü	Ü	· ·	Ü	
data:	-1	0	2	1	0	2	0	•	
172:	-1 1	-2 1	-3 1	1	2	3	0	0	
204: 236:	-1 0	1 0	-1 0	0 0	0 0	0 0	0 1	0 7	
			Ü	O	Ü	Ü	_	,	
===== cycle:		144	J	#152					
regist	ers:								
r00:	0	7	0	0	0	1	-1	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	-	0	2		0	2	0		
172: 204:	-1 -1	-2 1	-3 -1	1 0	2 0	3 0	0 0	0 0	
236:	0	0	0	0	0	0	1	7	
cycle:	50	152	SW	R6,	172(R10)				
regist									
r00:	0	7	0	0	0	1	-1	0	
r08: r16:	0 0	0 0	28 0	0 0	0 0	0 0	0 0	0 0	
r16. r24:	0	0	0	0	0	0	0	0	
	3	J	3	J	J	J	J	J	
data: 172:	-1	-2	-3	1	2	3	0	-1	
204:	-1 -1	1	-3 -1	0	0	0	0	0	
236:	0	0	0	0	Ö	0	1	7	
===== cycle:		156	ADDI	R1, I	R1, #-1				
regist	erc'								
roo:	0	6	0	0	0	1	-1	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	-1	-2	-3	1	2	3	0	-1	
204:	-1 -1	1	-3 -1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	7	
		======							

test1_	sim.txt	;							Page 12 of 32
cycle:	52	160	SW	R1, 2	264(R0)				
regist	ers:								
r00:	0	6	0	0	0	1	-1	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	6	
=====	=====	======							
cycle:	53	164	J	#112					
regist	ers:								
r00:	0	6	0	0	0	1	-1	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
da+-•									
data: 172:	-1	-2	-3	1	2	3	0	-1	
204:	-1 -1	-2 1	-3 -1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	6	
250.	O	U	U	O	U	U	Δ.	O	
		112	T 147	D1 (	264(R0)				
cycle:	54	112	LW	KI,	204 (RU)				
regist									
r00:	0	6	0	0	0	1	-1	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	6	
=====	======	======							
cycle:	55	116	BLTZ	R1,	‡ <b>4</b> 8				
regist	ers:								
r00:	0	6	0	0	0	1	-1	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	6	
=====	=====	======							
cycle:	56	120	SLL	R10,	R1, #2				
regist	ers:								
r00:	0	6	0	0	0	1	-1	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	

test1_	sim.txt	:							Page 13 of 3
172:	-1	-2	-3	1	2	3	0	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	6	
===== cycle:		124	LW	R3 1	72(R10)				
		121	2	113, 1	72(1010)				
regist r00:	ers: 0	6	0	0	0	1	-1	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	Ö	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	6	
		======							
cycle:	58	128	LW	R4, 2	16(R10)				
regist		6	0	0	0	7	-	0	
r00:	0	6	0	0	0	1	-1	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0 0	0	0 0	0	
r24:	0	U	U	U	U	U	U	U	
data:	1	2	2	1	2	2	0	1	
172:	-1	-2 1	-3 1	1	2	3	0	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	6	
===== cycle:		132	LW	R5, 2	60(R0)				
regist r00:	ers: 0	6	0	0	0	1	-1	0	
r00:	0	0	24	0	0	1 0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	0	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	6	
=====	======	======							
cycle:	60	136	BLTZ	R3, #	8				
regist									
	0	6	0	0	0	1	-1	0	
r00:	0	0	24	0	0	0	0	0	
r08:	0	0	0	0	0	0	0	0	
r08: r16:	0	0	0	0	0	0	0	0	
r08:	U		2	-	0	2	0	-	
r08: r16: r24: data:		_		1	2	3	0	-1	
r08: r16: r24: data: 172:	-1	-2	-3		0	0	0	0	
r08: r16: r24: data: 172: 204:	-1 -1	1	-1	0	0	(1)	1	6	
r08: r16: r24: data: 172:	-1			0	0	O			
r08: r16: r24: data: 172: 204: 236:	-1 -1 0	1 0	-1 0	0		Ü			
r08: r16: r24: data: 172: 204: 236: ====== cycle:	-1 -1 0	1	-1	0	0 4, R5	Ü			
c08: c16: c24: data: 172: 204: 236:	-1 -1 0	1 0	-1 0	0		1	-1	0	

test1_s	sim.txt	:							Page 14 of 3
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	Ö	
r24:	0	0	0	0	0	0	0	0	
121.	O	O	O	O	O	O	O	O	
data:									
172:	-1	-2	-3	1	2	3	0	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	6	
		======							
cycle:	62	144	J	#152					
regist	ers:								
r00:	0	6	0	0	0	1	-1	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	Ü	Ü	Ü	Ü	Ü	· ·	Ü	Ü	
data:									
172:	-1	-2	-3	1	2	3	0	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	6	
====== cycle:		152	SW	R6. 1	L72(R10)				
-1				,					
regist	ers:								
r00:	0	6	0	0	0	1	-1	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	6	
=====		======							
cycle:	64	156	ADDI	R1, F	R1, #-1				
magi									
registe		_	0	0	0	1	1	0	
r00:	0	5	0	0	0	1	-1	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0 0	0 0	0	0	0	0	0	
r24:	0	U	U	U	U	U	U	U	
data:									
	-1	-2	-3	1	2	3	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	6	
	-	-	-	-	,	,	_	-	
		1.60			264/=5:				
cycle:	65	160	SW	R1, 2	264(R0)				
registe	erg:								
registe	0	5	0	0	0	1	-1	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	J	J	J	J	3	5	3	J	
data:									
172:	-1	-2	-3	1	2	3	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	5	

_	sim.txt ======	======							Page 15 of 32
cycle:		164	J	#112					
regist	ers:								
r00:	0	5	0	0	0	1	-1	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	Ö	0	0	Ö	Ö	Ö	0	
r24:	0	0	0	0	0	0	0	0	
	Ü	Ü	Ü	Ü	Ü	Ü	· ·	Ü	
data:									
172:	-1	-2	-3	1	2	3	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	5	
		110		-1	264(20)				
cycle:	67	112	LW	RI, 2	264(R0)				
regist	ers:								
r00:	0	5	0	0	0	1	-1	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	•	Ŭ	Ŭ	Ŭ	J	3	J	ŭ	
data:									
172:	-1	-2	-3	1	2	3	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	5	
		======							
cycle:		116	BLTZ	R1, ‡	#48				
-									
regist	ers:								
r00:	0	5	0	0	0	1	-1	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	1	2	2	1	2	2	1	1	
172:	-1	-2	-3	1	2	3	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	5	
=====	======								
cycle:	69	120	SLL	R10,	R1, #2				
regist		-	0	0	0	4	-	0	
r00:	0	5	0	0	0	1	-1	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	-1	-1	
204:	-1	1	-3 -1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	5	
200.	U	U	U	U	U	U	1	J	
cycle:	70	124	LW	R3, 1	172(R10)				
	ere:								
reais+	0	5	0	3	0	1	-1	0	
regist	0	0	20	0	0	0	0	0	
r00:	U			0	0	0	0	0	
r00: r08:	Λ					U	U	U	
r00:	0	0 0	0 0	0	0	0	0	0	

test1_	sim.txt	:							Page 16 of 32
data:	-		2			2	-	-	
172: 204:	-1 -1	-2 1	-3 -1	1 0	2 0	3 0	-1 0	-1 0	
236:	0	0	0	0	0	0	1	5	
			O	O	O	Ü	1	3	
cycle:		128	LW	R4, 2	16(R10)				
regist	ers:								
r00:	0	5	0	3	0	1	-1	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	-1	-1	
204: 236:	-1 0	1 0	-1 0	0 0	0 0	0 0	0 1	0 5	
			O	Ü	Ü	Ü	_	3	
cycle:		132	LW	R5, 2	60(R0)				
regist	ers:								
r00:	0	5	0	3	0	1	-1	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	-1	-2	-3	1	2	3	-1	-1	
204:	-1 -1	1	-3 -1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	5	
=====	======	======							
cycle:		136	BLTZ	R3, #	8				
regist	ers:								
r00:	0	5	0	3	0	1	-1	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0 0	0 0	0 0	0 0	0 0	0	
r24:	0	U	U	U	U	U	U	U	
data: 172:	-1	-2	-3	1	2	3	-1	-1	
204:	-1	1	-3 -1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	5	
===== cycle:		140	SUB	R6. R	4, R5				
					,				
regist	ers: 0	5	0	3	0	1	-1	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	3	-1	-1	
204: 236:	-1 0	1 0	-1 0	0 0	0 0	0	0 1	0 5	
		======							
cycle:	75	144	J	#152					
	ers:								

testl_	sim.txt	:							Page 17 of 3
r00:	0	5	0	3	0	1	-1	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	-1	-2	-3	1	2	3	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	5	
		:=====							
cycle:		152	SW	R6, 3	172(R10)				
regist	ers:								
r00:	0	5	0	3	0	1	-1	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:				_					
172:	-1	-2 1	-3 1	1	2	-1	-1	-1	
204: 236:	-1 0	1 0	-1 0	0	0 0	0	0 1	0 5	
<u>.</u>	5	U	J	U	U	U	Τ.	J	
===== cycle:		156	ADDI	R1, I	R1, #-1				
				•					
regist r00:	ers: 0	4	0	3	0	1	-1	0	
r00:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	Ö	
r24:	0	0	0	0	0	0	0	0	
data: 172:	-1	-2	2	1	2	1	1	1	
204:	-1 -1	-2 1	-3 -1	1 0	2 0	-1 0	-1 0	-1 0	
236:	0	0	0	0	0	0	1	5	
===== cycle:		160	SW	R1, 2	264(R0)				
regist	ers:								
r00:	0	4	0	3	0	1	-1	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	-1	-1	-1	
204: 236:	-1 0	1 0	-1 0	0	0 0	0 0	0 1	0 4	
<b>430</b> •	U	U	0	U	U	U	Τ.	4	
===== cycle:		164	J	#112					
		101	J	пттд					
		4	0	2	0	1	1	0	
regist	0	4	0	3 0	0	1	-1	0	
r00:	0 0	0	20 0	0	0 0	0	0 0	0 0	
r00: r08:		0	0	0	0	0	0	0	
r00: r08: r16:		J	J	J	Ü	Ü	J	J	
r00: r08: r16: r24:	0								
regist r00: r08: r16: r24: data: 172:	0	- 2	-3	1	2	_1	_1	<b>–</b> 1	
r00: r08: r16: r24:		-2 1	-3 -1	1 0	2	-1 0	-1 0	-1 0	

test1_	sim.txt	:							Page 18 of 32
===== cycle:		112	LW	p1 :	264(R0)				
		112	211	1(1, 2	101(10)				
regist	ers:	4	0	3	0	1	-1	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	4	
		116	DI MG	D1 1	140				
cycle:		116	BLTZ	R1, ‡	140				
regist	ers:	4	0	3	0	1	-1	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	4	
===== cycle:		120	SLL	R10	R1, #2				
		120	522	ICIO,	1(1) 112				
regist		4	0	2	0	1		0	
r00:	0	4	0	3	0	1	-1	0	
r08: r16:	0	0	16 0	0 0	0 0	0 0	0	0 0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	4	
		======							
cycle:	83	124	LW	R3, 1	L72(R10)				
regist					-		_		
r00:	0	4	0		0	1	-1	0	
r08: r16:	0 0	0 0	16 0	0 0	0 0	0 0	0 0	0 0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	-1	-2	-3	1	2	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	4	
		======							
cycle:	84	128	LW	R4, 2	216(R10)				
regist		4	0				_		
r00: r08:	0	4	0	2	0	1	-1	0	
TUX:	0	0	16 0	0 0	0 0	0 0	0	0 0	
r16:	0				1.1	U	U	U	

test1_	sim.txt								Page 19 of 32
data: 172:	-1	-2	-3	1	2	-1	-1	-1	
204:	-1 -1	1	-3 -1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	4	
cycle:		132	LW	R5, 2	260(R0)				
regist	ers:								
r00:	0	4	0	2	0	1	-1	0	
r08:	0	0	16	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	4	
		======							
cycle:	86	136	BLTZ	R3, ‡	ŧδ				
regist									
r00:	0	4	0	2	0	1	-1	0	
r08:	0	0	16	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	4	
===== cycle:		140	SUB	D6 D	R4, R5				
сусте.	07	140	505	RO, I	(4, K)				
regist			_	_				_	
r00:	0	4	0	2	0	1	-1	0	
r08:	0	0	16	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	2	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	4	
===== cycle:		144	J	#152					
-									
regist	ers: 0	4	0	2	0	1	-1	0	
r00:	0	0	16	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r16: r24:	0	0	0	0	0	0	0	0	
	J	U	J	J	U	U	U	U	
data:	1	2	2	1	0	1	1	1	
172:	-1	-2 1	-3 1	1	2	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	4	
===== cycle:		152	SW	R6. 1	172(R10)				

	sim.txt	;							Page 20 of 3:
regist	ers:								
r00:	0	4	0	2	0	1	-1	0	
r08:	0	0	16	0	0	0	0	0	
		0	0	0	0	0	0	0	
r16:	0								
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	4	
=====	======	======							
cycle:	90	156	ADDI	R1, F	R1, #-1				
regist	ers:								
r00:	0	3	0	2	0	1	-1	0	
r08:	0	0	16	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	J	J	U	U	J	U	J	J	
data:			_	_					
172:	-1	-2	-3	1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	4	
cycle:	91	160	SW	R1, 2	264(R0)				
regist	ers:								
roo:	0	3	0	2	0	1	-1	0	
	0			0		0	0		
r08:		0	16		0			0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	3	
		======	_						
		164	J	#112					
cycle: regist	92 ers:	164							
cycle: regist r00:	92 ers: 0	164	0	2	0	1	-1	0	
cycle: regist r00: r08:	92 ers: 0	164 3 0	0 16	2	0	0	0	0	
cycle: regist r00: r08:	92 ers: 0	164	0	2					
cycle: regist r00: r08: r16:	92 ers: 0	164 3 0	0 16	2	0	0	0	0	
cycle: regist r00: r08: r16: r24: data:	92 ers: 0 0	164 3 0	0 16 0	2 0 0	0	0 0	0 0	0 0	
cycle: regist r00: r08: r16: r24: data: 172:	92 ers: 0 0	164 3 0	0 16 0	2 0 0	0	0 0	0 0	0 0	
cycle: regist r00: r08: r16: r24: data: 172:	92 ers: 0 0 0	3 0 0	0 16 0	2 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
cycle: regist r00: r08: r16: r24: data: 172: 204:	92 ers: 0 0 0	164 3 0 0	0 16 0 0	2 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
regist r00: r08: r16: r24: data: 172: 204: 236:	92 ers: 0 0 0 -1 -1 0	164  3 0 0 0 -2 1 0	0 16 0 0	2 0 0 0	0 0 0 -1 0	0 0 0 -1 0	0 0 0	0 0 0	
regist r00: r08: r16: r24: data: 172: 204: 236: ====== cycle:	92 ers: 0 0 0 -1 -1 0 ========93	3 0 0 0 0	0 16 0 0	2 0 0 0	0 0 0	0 0 0 -1 0	0 0 0	0 0 0	
regist r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist	92 ers: 0 0 0 -1 -1 93 ers:	164  3 0 0 0 -2 1 0 :====== 112	0 16 0 0 -3 -1 0	2 0 0 0 1 0 0	0 0 0 -1 0 0	0 0 0 -1 0	0 0 0	0 0 0 -1 0 3	
regist r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist r00:	92 ers: 0 0 0 0 -1 -1 0 ====== 93 ers: 0	164  3 0 0 0 -2 1 0 112	0 16 0 0 -3 -1 0	2 0 0 0 0 1 0 0 R1, 2	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 3	
regist r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist r00: r08:	92 ers: 0 0 0 -1 -1 0 ====== 93 ers: 0 0	164  3 0 0 0 0 -2 1 0 112	0 16 0 0 -3 -1 0	2 0 0 0 0 1 0 0 0 R1, 2	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 3	
regist r00: r08: r16: r24: data: 172: 204: 236: ===== cycle: regist r00: r16:	92 ers: 0 0 0 -1 -1 0 ======= 93 ers: 0 0	164  3 0 0 0 0 -2 1 0 :===== 112	0 16 0 0 -3 -1 0 LW	2 0 0 0 1 0 0 R1, 2	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 3	
regist r00: r08: r16: r24: data: 172: 204: 236: ====== cycle:	92 ers: 0 0 0 -1 -1 0 ====== 93 ers: 0 0	164  3 0 0 0 0 -2 1 0 112	0 16 0 0 -3 -1 0	2 0 0 0 0 1 0 0 0 R1, 2	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 3	
regist r00: r08: r16: r24:  data: 172: 204: 236:  ===== cycle: r00: r16: r16: r24: data:	92 ers: 0 0 0 -1 -1 0 ====== 93 ers: 0 0 0	164  3 0 0 0 -2 1 0 112  3 0 0 0 0	0 16 0 0 -3 -1 0 LW	2 0 0 0 1 0 0 R1, 2	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 3	
regist r00: r08: r16: r24: data: 172: 204: 236: ===== cycle: r08: r16: r16: r16: r16: r24:	92 ers: 0 0 0 -1 -1 0 ======= 93 ers: 0 0	164  3 0 0 0 0 -2 1 0 :===== 112	0 16 0 0 -3 -1 0 LW	2 0 0 0 1 0 0 R1, 2	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 3	

test1_	sim.txt	:							Page 21 of 32
236:	0	0	0	0	0	0	1	3	
===== cycle:		116	BLTZ	R1, ‡	±48				
-				, ,					
regist		2		•					
r00:	0	3 0	0 16	2 0	0	1 0	-1 0	0	
r08: r16:	0 0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
121.	O	0	O	O	0	O	O	O	
data:									
172:	-1	-2	-3	1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	3	
===== cycle:		120	SLL	R10,	R1, #2				
regist	ers:								
r00:	0	3	0	2	0	1	-1	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	_	-	•	_	_	_	_	_	
172:	-1	-2	-3	1	-1	-1	-1	-1	
204: 236:	-1 0	1 0	-1 0	0 0	0 0	0 0	0 1	0 3	
230.	U	U	U	U	U	U	1	3	
===== cycle:		124	LW	D2 1	L72(R10)				
сусте.	90	121	ПМ	10,	L/Z(KIU)				
regist									
r00:	0	3	0	1	0	1	-1	0	
r08:	0	0	12	0	0	0	0	0	
r16: r24:	0	0	0 0	0 0	0 0	0 0	0 0	0	
124.	U	U	U	U	U	U	U	U	
data:	1	0	2	1	1	1	1	1	
172: 204:	-1 -1	-2 1	-3 -1	1 0	-1 0	-1 0	-1 0	-1 0	
236:	0	0	0	0	0	0	1	3	
		100		D4 (	21.6 ( 22.0 )				
cycle:		128	LW	K4, 2	216(R10)				
regist	ers:	2	0	1	0	1	1	0	
r00: r08:	0	3 0	12	1 0	0 0	1 0	-1 0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	-1	-1	-1	-1	
204:	-1 0	1	-1	0 0	0 0	0 0	0 1	0	
236:		0	0	U	U	U	Τ	3	
===== cycle:		132	LW	R5, 2	260(R0)				
				, -					
regist	ers: 0	3	0	1	0	1	-1	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	Ö	0	0	0	

test1_	sim.txt	:							Page 22 of 32
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	3	
===== cycle:		136	BLTZ	R3, #8	3				
regist	ers:								
r00:	0	3	0	1	0	1	-1	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	1	0	2	1	1	1	1	1	
172: 204:	-1 -1	-2 1	-3 -1	1 0	-1 0	-1 0	-1 0	-1 0	
236:	0	0	0	0	0	0	1	3	
=====	======	======							
cycle:		140	SUB	R6, R4	4, R5				
regist			_		_	_			
r00:	0	3	0	1	0	1	-1	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	-1	-2	-3	1	-1	-1	-1	-1	
204:	-1 -1	1	-3 -1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	3	
===== cycle:		144	J	#152					
			Ü	1122					
regist		2	0	1	0	1	1	0	
r00: r08:	0	3 0	0 12	1 0	0	1 0	-1 0	0 0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	3	
===== cycle:		152	SW	R6, 1	72(R10)				
regist									
regist	ers. O	3	0	1	0	1	-1	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	3	
=====	======	156	ADDI		1, #-1				

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regist	ers:								
r00:	0	2	0	1	0	1	-1	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	-		2	1	1	-		-	
172:	-1	-2	-3	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	3	
=====	======	======							
cycle:		160	SW	R1, 2	264(R0)				
regist		^	0	-	^	4	4	^	
r00:	0	2	0	1	0	1	-1	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	2	
230.	O	0	O	O	O	0	_	2	
		======							
cycle:	105	164	J	#112					
regist	ere:								
r00:	0	2	0	1	0	1	-1	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
124.	U	U	U	U	U	U	U	U	
data:									
172:	-1	-2	-3	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	2	
		:======							
cycle:		112	LW	R1, 2	264(R0)				
regist r00:	ers: 0	2	0	1	0	1	-1	0	
r08:	0	0	12	0	0	0	0	0	
rus: r16:		0	0	0	0	0	0	0	
	0								
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	2	
	===	======							
 cycle:		116	BLTZ	R1, ‡	‡ <b>4</b> 8				
		-		, ,					
regist									
r00:	0	2	0	1	0	1	-1	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									

cesti_	sim.txt	;							Page 24 of 3
204: 236:	-1 0	1 0	-1 0	0 0	0	0	0 1	0 2	
			U	U	U	U	Τ.	2	
===== cycle:		120	SLL	R10,	R1, #2				
regist	erg:								
r00:	0	2	0	1	0	1	-1	0	
r08:	0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	-3	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	2	
		======							
cycle:	109	124	LW	R3, 1	72(R10)				
regist									
r00:	0	2	0	-3	0	1	-1	0	
r08:	0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	-	_	2	-	4	-	-	•	
172:	-1	-2	-3	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	2	
===== cycle:		128	LW	R4. 2	16(R10)				
		120	ъм	1(1, 2	10(1110)				
regist	ers:			_		-		_	
		_							
r00:	0	2	0	-3	0	1	-1	0	
r00: r08:	0 0	0	8	0	0	0	0	0	
r00: r08: r16:	0 0 0	0	8	0 0	0	0 0	0 0	0 0	
r00: r08: r16:	0 0	0	8	0	0	0	0	0	
r00: r08: r16: r24: data:	0 0 0 0	0 0 0	8 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
r00: r08: r16: r24: data: 172:	0 0 0 0	0 0 0	8 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
r00: r08: r16: r24: data: 172: 204:	0 0 0 0 -1 -1	0 0 0 -2 1	8 0 0	0 0 0	0 0 0 -1 0	0 0 0 -1 0	0 0 0	0 0 0	
r00: r08: r16: r24: data: 172: 204: 236:	0 0 0 0 -1 -1 0	0 0 0 -2 1	8 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
r00: r08: r16: r24: data: 172: 204: 236:	0 0 0 0 -1 -1 0	0 0 0 -2 1	8 0 0	0 0 0	0 0 0 -1 0	0 0 0 -1 0	0 0 0	0 0 0	
r00: r08: r16: r24: data: 172: 204: 236: ====== cycle:	0 0 0 0 -1 -1 0	0 0 0 -2 1 0	8 0 0	0 0 0	0 0 0	0 0 0 -1 0	0 0 0	0 0 0	
r00: r08: r16: r24:  data: 172: 204: 236: ===== cycle: regist	0 0 0 0 -1 -1 0 ========================	0 0 0 -2 1 0	8 0 0	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0	0 0 0	0 0 0 -1 0 2	
r00: r08: r16: r124: data: 172: 204: 236: cycle: regist r00:	0 0 0 0 0 -1 -1 0 ======================	0 0 0 -2 1 0 :====== 132	8 0 0 -3 -1 0	0 0 0 -1 0 0 R5, 2	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 2	
r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist r00: r08:	0 0 0 0 0 -1 -1 0 ======================	0 0 0 -2 1 0 -3 132	8 0 0 -3 -1 0	0 0 0 -1 0 0 R5, 2	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 2	
r00: r08: r16: r16: r24:  data: 172: 204: 236: cycle: regist r00: r08: r16:	0 0 0 0 0 -1 -1 0 ======================	0 0 0 -2 1 0 :====== 132	8 0 0 -3 -1 0	0 0 0 -1 0 0 R5, 2	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 2	
r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist r00: r08: r16: r24:	0 0 0 0 0 -1 -1 0 ======================	0 0 0 -2 1 0 -3 132	8 0 0 -3 -1 0 LW	0 0 0 -1 0 0 R5, 2	0 0 0 -1 0 0 60(R0)	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 2	
r00: r08: r16: r24: data: 172: 204: 236: ===== cycle: regist r00: r16: r24: data:	0 0 0 0 0 -1 -1 0 ======================	0 0 0 -2 1 0 -3 132	8 0 0 -3 -1 0 LW	0 0 0 -1 0 0 R5, 2	0 0 0 -1 0 0 60(R0)	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 2	
r00: r08: r16: r16: r24:  data: 172: 204: 236: ====== cycle: regist r00: r16: r24: data: 172:	0 0 0 0 0 -1 -1 0 ======== 1111 ers: 0 0 0	0 0 0 -2 1 0 :====== 132	8 0 0 -3 -1 0 LW	0 0 0 0 -1 0 0 R5, 2	0 0 0 -1 0 0 0 60(R0)	0 0 0 -1 0 0	0 0 0 1 -1 0 1	0 0 0 -1 0 2	
r00: r08: r16: r24:  data: 172: 204: 236: ===== cycle: r00: r08: r16: r24:  data: 172: 204:	0 0 0 0 0 -1 -1 0 ======== 1111 ers: 0 0 0	0 0 0 -2 1 0 :====== 132 2 0 0	8 0 0 -3 -1 0 LW	0 0 0 0 -1 0 0 R5, 2	0 0 0 -1 0 0 60(R0)	0 0 0 -1 0 0	0 0 0 1 -1 0 1 0 0 0	0 0 0 -1 0 2	
r00: r08: r16: r24:  data: 172: 204: 236:  ====== cycle: regist r00: r16: r24: data: 172: 204: 236: =====	0 0 0 0 0 -1 -1 0 ers: 0 0 0 0	0 0 0 0 -2 1 0 2 0 0 0 0	8 0 0 -3 -1 0 LW	0 0 0 0 -1 0 0 R5, 2 -3 0 0 0	0 0 0 0 -1 0 0 60(R0)	0 0 0 0 -1 0 0 0	0 0 0 1 -1 0 0 0 0	0 0 0 -1 0 2	
r00: r08: r16: r24:  data: 172: 204: 236:  ===== cycle: r00: r08: r16: r24:  data: 172: 204: 236:  ===== cycle:	0 0 0 0 0 -1 -1 0 0 0 0 0 0	0 0 0 -2 1 0 -3 132	8 0 0 -3 -1 0 LW	0 0 0 0 -1 0 0 R5, 2	0 0 0 0 -1 0 0 60(R0)	0 0 0 0 -1 0 0 0	0 0 0 1 -1 0 0 0 0	0 0 0 -1 0 2	
r00: r08: r16: r24:  data: 172: 204: 236:  ====== cycle: r08: r16: r24: data: 172: 204: 236: =====	0 0 0 0 0 -1 -1 0 0 0 0 0 0	0 0 0 0 -2 1 0 2 0 0 0 0	8 0 0 -3 -1 0 LW	0 0 0 0 -1 0 0 R5, 2 -3 0 0 0	0 0 0 0 -1 0 0 60(R0)	0 0 0 0 -1 0 0 0	0 0 0 1 -1 0 0 0 0	0 0 0 -1 0 2	

test1_	sim.txt	:							Page 25 of 32
r16: r24:	0	0	0	0 0	0 0	0 0	0 0	0 0	
data:									
172:	-1	-2	-3	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	2	
===== cycle:		148	ADD	R6, R	4, R5				
regist									
regist r00:	ers. O	2	0	-3	0	1	1	0	
r08:	0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
124.	U	U	U	U	U	U	U	U	
data: 172:	-1	-2	-3	-1	-1	-1	-1	-1	
204:	-1 -1	-2 1	-3 -1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	2	
			U	U	U	U	1	2	
===== cycle:		152	SW	R6. 1	72(R10)				
		-02	,	, -	_ (/				
regist		^	0	2	^	4	4	^	
r00:	0	2	0	-3	0	1	1	0	
r08:	0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	1	-2	1	1	1	-1	1	1	
204:	-1 -1	-2 1	1 -1	-1 0	-1 0	0	-1 0	-1 0	
236:	0	0	0	0	0	0	1	2	
=====	======	======							
cycle:		156	ADDI	R1, R	1, #-1				
regist	ers:								
r00:	0	1	0	-3	0	1	1	0	
r08:	0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	1	0	-	-	-	-	1	1	
172:	-1	-2 1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	2	
===== cycle:		160	SW	R1, 2	64(R0)				
regist	ers:								
r00:	0	1	0	-3	0	1	1	0	
r08:	0	0	8	0	0	0	0	Ō	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	1	
		======							

${\sf test1}_{\_}$	sim.txt	;							Page 26 of 3
cycle:	117	164	J	#112					
regist	ers:								
r00:	0	1	0	-3	0	1	1	0	
r08:	0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	1	
cycle:		112	LW	R1, 2	64(R0)				
regist	ora:								
regist	0	1	0	-3	0	1	1	0	
r08:	0	0	8	- 3 0	0	0	0	0	
			0	0		0			
r16:	0	0		0	0		0	0	
r24:	0	0	0	U	0	0	0	0	
data:									
172:	-1	-2	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	1	
		======							
cycle:	119	116	BLTZ	R1, #	48				
regist	ers:								
r00:	0	1	0	-3	0	1	1	0	
r08:	0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	1	
=====	======	======							
cycle:	120	120	SLL	R10,	R1, #2				
regist									
r00:	0	1	0	-3	0	1	1	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	1	
		======							
cycle:	121	124	LW	R3, 1	.72(R10)				
regist	ers:								
r00:	0	1	0	-2	0	1	1	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									

	sim.txt	:							Page 27 of 3
172:	-1	-2	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	1	
===== cycle:		128	LW	R4, 2	16(R10)				
regist	ers:								
r00:	0	1	0	-2	0	1	1	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	-	0	4			-		4	
172:	-1 -1	-2 1	1	-1	-1	-1	-1	-1	
204: 236:	0	1 0	-1 0	0 0	0	0 0	0 1	0 1	
		======							
cycle:		132	LW	R5, 2	60(R0)				
regist r00:	ers:	1	0	-2	0	1	1	0	
r00: r08:	0	0	4	-2 0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	-2	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	1	
===== cycle:		136	BLTZ	R3, #	8				
regist	ers:								
	ers:	1	0	-2	0	1	1	0	
r00:		1	0 4	-2 0	0 0	1 0	1 0	0	
r00: r08:	0								
r00: r08: r16:	0 0	0	4	0	0	0	0	0	
r00: r08: r16: r24: data:	0 0 0	0 0 0	4 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
r00: r08: r16: r24: data: 172:	0 0 0 0	0 0 0	4 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
r00: r08: r16: r24: data: 172: 204:	0 0 0 0 0	0 0 0	4 0 0	0 0 0	0 0 0 -1 0	0 0 0 -1 0	0 0 0	0 0 0	
r00: r08: r16: r24: data: 172: 204: 236:	0 0 0 0 0	0 0 0	4 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
r00: r08: r16: r24: data: 172: 204: 236:	0 0 0 0 -1 -1 0	0 0 0	4 0 0	0 0 0	0 0 0	0 0 0 -1 0	0 0 0	0 0 0	
r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist	0 0 0 0 -1 -1 0	0 0 0 -2 1 0	4 0 0 1 -1 0	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0	0 0 0	0 0 0	
r00: r08: r16: r24: data: 172: 204: 236: ===== cycle: regist r00:	0 0 0 0 -1 -1 0 :=======1 125 .ers:	0 0 0 -2 1 0 :====== 148	4 0 0 1 -1 0 ADD	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 1	
r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist r00: r08:	0 0 0 0 -1 -1 0 :======= 125 .ers: 0	0 0 0 -2 1 0 -3 -48	4 0 0 1 -1 0 ADD	0 0 0 -1 0 0 R6, R	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 1	
r00: r08: r16: r24: data: 172: 204: 236: ===== cycle: regist r00: r08: r16:	0 0 0 0 -1 -1 0 .======= 125 .ers: 0 0	0 0 0 -2 1 0 -3 148	4 0 0 1 -1 0 ADD	0 0 0 -1 0 0 R6, R	0 0 0 -1 0 0 4, R5	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 1	
r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist r00: r08: r16: r24:	0 0 0 0 -1 -1 0 :======= 125 .ers: 0	0 0 0 -2 1 0 -3 -48	4 0 0 1 -1 0 ADD	0 0 0 -1 0 0 R6, R	0 0 0 -1 0 0	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 1	
236:	0 0 0 0 -1 -1 0 ========================	0 0 0 -2 1 0 -2 148	4 0 0 1 -1 0 ADD	0 0 0 -1 0 0 R6, R	0 0 0 -1 0 0 4, R5	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 1	
r00: r08: r16: r24:  data: 172: 204: 236:  ===== cycle: regist r00: r16: r24:  data: 172:	0 0 0 0 -1 -1 0 .======= 125 .ers: 0 0	0 0 0 -2 1 0 -3 148	4 0 0 1 -1 0 ADD	0 0 0 0 -1 0 0 R6, R	0 0 0 -1 0 0 4, R5	0 0 0 0 -1 0 0 0	0 0 0 -1 0 1	0 0 0 -1 0 1	
r00: r08: r16: r24:  data: 172: 204: 236:  ===== cycle: regist r00: r16: r24: data:	0 0 0 0 -1 -1 0 ========================	0 0 0 -2 1 0 ======= 148	4 0 0 1 -1 0 ADD	0 0 0 0 -1 0 0 R6, R	0 0 0 -1 0 0 4, R5	0 0 0 -1 0 0	0 0 0 -1 0 1	0 0 0 -1 0 1	
r00: r08: r16: r24:  data: 172: 204: 236:  roycle: regist r00: r16: r24: data: 172: 204: 236:	0 0 0 0 -1 -1 0 125 ers: 0 0 0	0 0 0 0 -2 1 0 0 -2 148	4 0 0 1 -1 0 ADD 0 4 0 0	0 0 0 0 -1 0 0 R6, R -2 0 0 0	0 0 0 -1 0 0 4, R5	0 0 0 0 -1 0 0 0	0 0 0 1 1 1 0 0 0 0	0 0 0 -1 0 1	
r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist r00: r08: r16: r24: data: 172: 204: 236:	0 0 0 0 0 -1 -1 0 ======== 0 0 0 0 0 -1 -1 0	0 0 0 -2 1 0 -148	4 0 0 1 -1 0 ADD	0 0 0 0 -1 0 0 R6, R -2 0 0 0	0 0 0 -1 0 0 4, R5	0 0 0 0 -1 0 0 0	0 0 0 1 1 1 0 0 0 0	0 0 0 -1 0 1	

test1_s	sim.txt	:							Page 28 of 32
r08:	0	0	4	0	0	0	0	0	
r16:	0	Ö	0	0	0	Ö	Ö	Ö	
r24:	0	0	0	0	0	0	0	0	
121.	Ü	J	Ü	Ü	Ü	Ü	Ü	Ü	
data:									
172:	-1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	1	
230.	U	U	O	U	U	U	1	_	
======		======							
cycle:	L27	156	ADDI	R1, F	11, #-1				
registe									
r00:	0	0	0	-2	0	1	1	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
_									
data:	_	_	_	_	_	_	_	_	
172:	-1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	1	
		160	CI-7	D1 0	) ( 1 ( D O )				
cycle:	128	160	SW	KI, Z	264(R0)				
registe	arg.								
r00:	0	0	0	-2	0	1	1	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	0	
230.	U	O	U	U	U	U	1	0	
======		======							
cycle:	L29	164	J	#112					
registe									
r00:	0	0	0	-2	0	1	1	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
_									
data:	_			_	_	_	_		
	-1	1	1		-1		-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	0	
		110	T T-7	D1 0	) ( 1 ( D O )				
cycle:	130	112	LW	KI, Z	264(R0)				
registe	erg:								
r00:	0	0	0	-2	0	1	1	0	
r08:	0	0	4	0	0	0	0	0	
r16:		0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	
r24:	0	U	U	U	U	U	U	U	
data:									
172:	-1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
	0	0	0	0	0	0	1	0	
236.	U	U	U	U	U	U	_	U	
236:	-								

	sim.txt ======	======							Page 29 of 32
cycle:		116	BLTZ	R1, #	48				
regist	ers:								
r00:	0	0	0	-2	0	1	1	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	0	
=====	======								
cycle:	132	120	SLL	R10,	R1, #2				
regist									
r00:	0	0	0	-2	0	1	1	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	_	_	_	_	_	_	_	_	
172:	-1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	0	
cycle:		124	LW	R3 1	72(R10)				
				, -	, = (==== ,				
regist						_	_		
r00:	0	0	0	-1	0	1	1	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	_			_	_	_	_		
172:	-1	1	1	-1	-1	-1	-1	-1	
204: 236:	-1 0	1 0	-1 0	0	0	0 0	0 1	0 0	
2501	O	O	O	O	O	Ü	_	Ü	
cycle:		128	LW	R4. 2	16(R10)				
				, -	_ (				
regist		0	0	4	0	1	1	0	
r00:	0	0	0	-1	0	1	1	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	1	1	1	1	1	1	1	1	
172:	-1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	0	
cycle:		132	LW	R5. 2	60(R0)				
		-52	2.1	1.5, 2	- 0 (200)				
regist		-	-	_	•	_	_	•	
	0	0	0	-1	0	1	1	0	
r00:	0	0	0	0	0	0	0	0	
r08:	_		(1)	0	0	0	0	0	
	0 0	0 0	0 0	0	0	0	0	0	

test1_s	sim.txt	:							Page 30 of 32
data: 172:	-1	1	1	-1	-1	-1	-1	-1	
204:	-1 -1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	0	
				-		-	_	-	
cycle:1		136	BLTZ	R3, #	8				
registe	ers:								
r00:	0	0	0	-1	0	1	1	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	-	-	-	-	-	4		4	
172:	-1	1	1	-1	-1	-1	-1	-1	
204: 236:	-1 0	1 0	-1 0	0 0	0 0	0	0 1	0 0	
			U	U	U	U	1	U	
====== cycle:1		148	ADD	R6, R	4, R5				
registe					-				
r00:	0	0	0	-1	0	1	1	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	0	
cycle:1		152	SW	R6 1	72(R10)				
		132	511	110, 1	/2(1010)				
register roo:	ers: 0	0	0	-1	0	1	1	0	
r00:	0	0	0	0	0	0	1 0	0 0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	0	
====== cycle:1		156	ADDI	R1, R	1, #-1				
registe	ers:								
r00:	0	-1	0	-1	0	1	1	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	1	1	1	1	1	1	1	1	
172: 204:	1 -1	1 1	1 -1	-1 0	-1 0	-1 0	-1 0	-1 0	
236:	0	0	0	0	0	0	1	0	
		======							
cycle:1	L40	160	SW	R1, 2	64(R0)				
registe									

test1_	sim.txt	;							Page 31 of 3
r00:	0	-1	0	-1	0	1	1	0	
r08:	0	0	Ö	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
121.	O	O	O	O	O	O	O	O	
data:									
172:	1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	-1	
cycle:		164	J	#112					
regist	ers:								
r00:	0	-1	0	-1	0	1	1	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	Ö	1	-1	
====== cycle:		112	LW	R1. 2	264(R0)				
			=/-	, -	. = (/				
regist		_	_	_	•	_	_	•	
r00:	0	-1	0	-1	0	1	1	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	-1	
		======							
cycle:	143	116	BLTZ	R1, ‡	‡ <b>4</b> 8				
regist									
r00:	0	-1	0	-1	0	1	1	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	1	1	-1	-1	-1	-1	-1	
204:	-1	1	-1	0	0	0	0	0	
236:	0	0	0	0	0	0	1	-1	
=====									
_	144	168	BREAK						
cycle:									
regist	0	-1	0	-1	0	1	1	0	
regist		0	0	0	0	0	0	0	
regist r00: r08:	0	0	0	0	0	0	0	0	
regist r00: r08: r16:	0		_	0	0	0	0	0	
regist r00: r08: r16:		0	0						
cycle: regist r00: r08: r16: r24: data:	0	0							
regist r00: r08: r16: r24: data: 172:	0 0	0	1	-1	-1	-1	-1	-1	
regist r00: r08: r16: r24: data:	0	0			-1 0 0	-1 0 0	-1 0 1	-1 0 -1	

tes	t1_sim.txt	Page	32 of	32

## test2\_dis.txt Page 1 of 1 1 00010 00000 00000 00000 00000 011010 #104 Invalid Instruction 0 01000 00000 00010 00000 00000 000010 100 1 01000 00000 00001 00000 00001 100100 104 ADDI R1, R0, #100 1 01000 00000 00010 00000 00000 011000 R2, R0, #24 1 00000 00001 00010 00011 00000 100000 ADD R3, R1, R2 112 1 00000 00011 00000 00000 00000 001000 R3 116 JR 0 01000 00000 10000 00000 00000 000001 120 Invalid Instruction 1 00000 00001 00010 00100 00000 100010 124 SUB R4, R1, R2 00000 00000 00010 00101 00001 000000 128 SLL R5, R2, #1 1 00000 00000 00101 00110 00001 000010 132 SRL R6, R5, #1 1 11100 00010 00110 00111 00000 000010 MUL R7, R2, R6 136 1 01000 00000 01000 00000 00000 000000 140 ADDI R8, R0, #0 1 00000 00100 01000 01001 00000 001010 MOVZ 144 R9, R4, R8 1 00000 00000 00000 00000 00000 000000 148 NOP 1 00000 00000 00000 00000 00000 001101 152 BREAK 156 1 160 2 3 000000000000000000000000000000011 164 168

108: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	test2_si									Page 1 of 3
CO   O   O   O   O   O   O   O   O   O				#104						
108: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	register	s:								
rife: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	r00:	0	0	0	0	0	0	0	0	
### Page 12	r08:	0	0	0	0	0	0	0	0	
### Page 12	r16:									
156: 1 2 3 4										
eycle:2 104 ADDI R1, R0, #100  registers: registers: r00: 0	data:									
registers:	156:	1	2	3	4					
registers: r00: 0				R1, R0,	#100					
ref				, .,	,,					
registers:			100	0	0	0	0	0	0	
refe: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0										
### Comparison of Comparison o										
data: 156: 1 2 3 4										
156: 1 2 3 4	r24:	0	0	0	0	0	0	0	0	
registers: r00: 0	data:									
registers:  r00: 0	156:	1	2	3	4					
registers: r00: 0				D2 D0	#24					
ron: 0			ADDI	R2, RU,	#44					
rome:			1.00	0.4		•			•	
r16: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0										
r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	r08:	0	0	0	0	0	0	0	0	
data: 156: 1 2 3 4	r16:	0	0	0	0	0	0	0	0	
156: 1 2 3 4	r24:	0	0	0	0	0	0	0	0	
cycle:4 112 ADD R3, R1, R2  registers: r00: 0 100 24 124 0 0 0 0 0 r08: 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	data:									
registers:  r00: 0	156:	1	2	3	4					
registers: r00: 0					_					
r00: 0 100 24 124 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	cycle:4	112	ADD	R3, R1,	R2					
r08: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		s:								
r16: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	r00:	0	100	24	124	0	0	0	0	
r16: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	r08:	0	0	0	0	0	0	0	0	
r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	r16:	0	0	0	0	0	0	0	0	
156: 1 2 3 4  ==================================		0	0	0		0		0		
156: 1 2 3 4  ==================================	data:									
registers: r00: 0	156:	1	2	3	4					
registers: r00: 0				- 0						
r00: 0 100 24 124 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	cycle:5	116	JR	R3						
r08: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	register									
r16: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	r00:									
r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	r08:	0	0	0	0	0	0	0	0	
r24: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	r16:	0	0	0	0	0	0	0	0	
156: 1 2 3 4 ===================================										
======================================	data:									
cycle:6 124 SUB R4, R1, R2	156:	1	2	3	4					
registers:				R4 p1	R2					
registers:			202	, 1(1)						
		s: 0	100	24	124	76	0	0	0	

test2_s	im.txt								Page 2 of
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
121.	Ü	Ü	Ü	Ü	Ü	Ü	Ü	Ü	
data:									
156:	1	2	3	4					
	_	-	3	-					
======	=====	======							
cycle:7	128	SLL	R5, R2,	#1					
registe									
r00:	0	100	24	124	76	48	0	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	-	•	2						
156:	1	2	3	4					
		======							
====== cycle:8		SRL	R6, R5,	<b>#1</b>					
cycre.0	134	חאט	KU, KJ,	# ±					
registe	rs:								
r00:	0	100	24	124	76	48	24	0	
r08:	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	
r16:	0								
r24:	0	0	0	0	0	0	0	0	
data:									
156:	1	2	3	4					
150	-	-	3	•					
======	=====	======							
cycle:9	136	MUL	R7, R2,	R6					
registe		100	0.4	104	7.6	4.0	0.4	F. 7.	
r00:	0	100	24	124	76	48	24	576	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
_									
data:	-	0	2						
156:	1	2	3	4					
		======							
cycle:1		140	ADDI	R8, R0,	#0				
_		-		,					
registe									
r00:		100	24	124	76	48	24	576	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
156:	1	2	3	4					
====== cycle:1		===== 144	MOVZ	R9, R4,	PΩ				
сусте•т	_	144	MOVA	KJ, K4,	r.o				
	rs:								
registe	0	100	24	124	76	48	24	576	
registe rNN:	0	76	0	0	0	0	0		
r00:								0	
r00: r08:		0	0	0	0	0	0	0	
r00: r08: r16:	0				0	0	0	0	
r00:	0	0	0	0	U				
r00: r08: r16:		0	U	U	O				

$test2_{-}$	sim.txt	t							Page 3 of 3
156:	1	2	3	4					
=====	======	======							
cycle:	12	148	NOP						
regist	ers:								
r00:	0	100	24	124	76	48	24	576	
r08:	0	76	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
156:	1	2	3	4					
=====	======	======							
cycle:	13	152	BREAK						
regist	ers:								
r00:	0	100	24	124	76	48	24	576	
r08:	0	76	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
156:	1	2	3	4					

Page 1 of 1 test3\_dis.txt 0 01000 00000 00001 00000 00000 001010 Invalid Instruction 01000 00000 00001 00000 00000 001010 100 ADDI R1, R0, #10 01011 00000 00001 00000 00100 001000 104 SW R1, 264(R0) 0 00010 10000 00000 00000 00000 000000 Invalid Instruction 00011 00000 00001 00000 00100 001000 112 LWR1, 264(R0) 00001 00001 00000 00000 00000 001100 116 BLTZ R1, #48 00000 00000 00001 01010 00010 000000 120 SLL R10, R1, R3, 172(R10) 00011 01010 00011 00000 00010 101100 LW 124 R4, 216(R10) 00011 01010 00100 00000 00011 011000 128 LW R5, 260(R0) 1 00011 00000 00101 00000 00100 000100 132 LW00001 00011 00000 00000 00000 000010 BLTZ R3, #8 136 00000 00100 00101 00110 00000 100010 140 SUB R6, R4, R5 00010 00000 00000 00000 00000 100110 144 #152 J 00000 00100 00101 00110 00000 100000 ADD R6, R4, R5 148 R6, 172(R10) 1 01011 01010 00110 00000 00010 101100 152 SW 1 01000 00001 00001 11111 11111 111111 156 ADDT R1, R1, #-1 1 01011 00000 00001 00000 00100 001000 160 SW R1, 264(R0) 00010 00000 00000 00000 00000 011100 164 υŢ #112 1 00000 00000 00000 00000 00000 001101 168 BREAK 172 1 0000000000000000000000000000011 176 3 180 -3 184 -1 188 -2 00000000000000000000000000000011 192 196 200 0 204 5 208 0000000000000000000000000000000000110 212 6 216 0 220 0 224 0 228 0 232 0 236 0 240 0 244 0 248 0 252 0 256 0 260 264 0

rycle:1 100 registers: -00: 0 -08: 0 -16: 0 -24: 0  lata: -72: 1 -04: 5 -236: 0  registers: -00: 0 -08: 0 -16: 0 -24: 0  lata: -72: 1 -04: 5 -236: 0  registers: -00: 0 -08: 0 -16: 0 -24: 0  lata: -72: 1 -04: 5 -06: 0 -08: 0 -16: 0 -08: 0 -0	10 0 0 0 0	0 0 0 0 0 -3 6 0 0 0 0	0, #10  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 -2 0 0	0 0 0 0 0	0 0 0 0 0 0 2	0 0 0 0 0	
00: 0 08: 0 16: 0 24: 0  data: .72: 1 004: 5 .36: 0	0 0 0 3 -5 0 ====== SW 10 0 0 0	0 0 0 0 -3 6 0 R1, 2	0 0 0 -1 0 0 0 64(R0)	0 0 0 -2 0 0	0 0 0 3 0 0	0 0 0 0 2 2	0 0 0 0 0 0	
08: 0 16: 0 24: 0  data: 72: 1 204: 5 36: 0  egisters: 00: 0 208: 0 208: 0 209:	0 0 0 3 -5 0 ====== SW 10 0 0 0	0 0 0 0 -3 6 0 R1, 2	0 0 0 -1 0 0 0 64(R0)	0 0 0 -2 0 0	0 0 0 3 0 0	0 0 0 0 2 2	0 0 0 0 0 0	
116: 0 124: 0  lata: 172: 1 104: 5 136: 0  registers: 100: 0 108: 0 116: 0 124: 0  lata: 172: 1 104: 5 136: 0	0 0 3 -5 0 ====== SW 10 0 0 0	0 0 -3 6 0 R1, 2	0 0 -1 0 0 0 64(R0)	0 0 -2 0 0	0 0 3 0 0	0 0 0 0 2 2	0 0 0 0 0	
224: 0  data: .72: 1 .004: 5 .336: 0	0 3 -5 0 ===== SW 10 0 0 0	0 -3 6 0 R1, 2 0 0 0 0	0 -1 0 0 64(R0)	0 -2 0 0	0 3 0 0	0 0 0 2 2	0 0 0 0	
data: .72: 1 .004: 5 .336: 0	3 -5 0 ===== SW 10 0 0 0	-3 6 0 R1, 2 0 0 0 0	-1 0 0 64(R0)	-2 0 0	3 0 0	0 0 2 0 0 0	0 0 0	
72: 1 204: 5 336: 0	-5 0 ====== SW 10 0 0 0	6 0 R1, 2 0 0 0 0	0 0 64(R0) 0 0 0	0 0 0 0	0 0 0 0	0 2 0 0 0	0 0 0 0	
204: 5 236: 0  222: 104  223: 204: 204  224: 0  234: 204: 5 236: 0	-5 0 ====== SW 10 0 0 0	6 0 R1, 2 0 0 0 0	0 0 64(R0) 0 0 0	0 0 0 0	0 0 0 0	0 2 0 0 0	0 0 0 0	
236: 0  22104  22104  236: 0  236: 0  24: 0  24: 0  24: 1  204: 5  236: 0	0 ====== SW 10 0 0 0 0	0 R1, 2 0 0 0 0	0 64(R0) 0 0 0	0 0 0 0	0 0 0	0 0 0	0 0 0	
registers: -00: 0 -08: 0 -16: 0 -24: 0	SW  10 0 0 0 3 -5	R1, 2 0 0 0 0 0 -3 6	0 0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
registers: 00: 0 008: 0 106: 0 24: 0  lata: 72: 1 004: 5 336: 0	10 0 0 0	0 0 0 0	0 0 0 0	0 0	0	0 0	0 0	
registers: 00: 0 008: 0 16: 0 24: 0 lata: 72: 1 004: 5 336: 0	10 0 0 0 0	0 0 0 0	0 0 0 0	0 0	0	0 0	0 0	
00: 0 08: 0 16: 0 24: 0 lata: 72: 1 104: 5 136: 0	0 0 0 3 -5	0 0 0 -3 6	0 0 0	0 0	0	0 0	0 0	
08: 0 -16: 0 -24: 0 -24: 0 	0 0 0 3 -5	0 0 0 -3 6	0 0 0	0 0	0	0 0	0 0	
116: 0 224: 0 data: 72: 1 1004: 5 136: 0	0 0 3 -5	0 0 -3 6	0	0	0	0	0	
24: 0  Mata: .72: 1 .004: 5 .336: 0	0 3 -5	0 -3 6	0					
lata: 72: 1 204: 5 336: 0	3 -5	-3 6		0	0	0	0	
.72: 1 :04: 5 :36: 0	-5	6	-1			U	J	
204: 5 236: 0	-5	6	-1					
:36: 0				-2	3	0	0	
:=======:	0		0	0	0	0	0	
		0	0	0	0	2	10	
cycle:3 112								
	LW	R1, 2	64(R0)					
egisters:								
00: 0	10	0	0	0	0	0	0	
08: 0	0	0	0	0	0	0	0	
16: 0	0	0	0	0	0	0	0	
24: 0	0	0	0	0	0	0	0	
lata:								
.72: 1	3	-3	-1	-2	3	0	0	
204: 5	-5	6	0	0	0	0	0	
136: 0	0	0	0	0	0	2	10	
:======::								
cycle:4 116	BLTZ	R1, #	48					
egisters:	1.0		0		-			
00: 0	10	0	0	0	0	0	0	
:08: 0	0	0	0	0	0	0	0	
16: 0	0	0	0 0	0	0 0	0	0	
24: 0	U	U	U	U	U	0	0	
lata:	2	2	-	2	2	0	0	
.72: 1	3	-3	-1	-2	3	0	0	
104: 5	-5	6	0	0	0	0	0	
236: 0	0	0	0	0	0	2	10	
:======:: :ycle:5 120	===== SLL	R10,	R1, #2					
		•						
registers:	1.0	Λ	0	0	0	0	0	
00: 0	10 0	0	0 0	0 0	0 0	0 0	0	
108: 0		40						
16: 0 24: 0	0 0	0	0 0	0 0	0 0	0 0	0	

test3_s	im.txt								Page 2 of 32
data:	1	2	2	-	0	2	0	0	
172: 204:	1 5	3 -5	-3 6	-1 0	-2 0	3 0	0 0	0	
236:	0	0	0	0	0	0	2	10	
			O	U	U	U	2	10	
cycle:6		LW	R3, 1	72(R10)					
registe:	rs:								
r00:	0	10	0	6	0	0	0	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:				_	_				
172:	1	3	-3	-1	-2	3	0	0	
204: 236:	5 0	-5 0	6 0	0 0	0	0 0	0 2	0 10	
230.	U	U	U	U	U	U	2	10	
====== cycle:7		LW	R4, 2	16(R10)					
registe:	rs:								
r00:	0	10	0	6	0	0	0	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	6	0	0	0	0	0	
236:	0	0	0	0	0	0	2	10	
====== cycle:8		LW	R5, 2	60 ( B0 )					
		ПW	K5, Z	30 (10)					
registe:		1.0	0	6	0	2	0	0	
r00: r08:	0	10 0	0 40	6 0	0	2 0	0 0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	6	0	0	0	0	0	
236:	0	0	0	0	0	0	2	10	
====== cycle:9		BLTZ	R3, #8	8					
registe:	rs:								
r00:	0	10	0	6	0	2	0	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	-	-	-	_	_	-	-	•	
172:	1	3	-3	-1	-2	3	0	0	
204: 236:	5 0	-5 0	6 0	0 0	0 0	0 0	0 2	0 10	
======	=====	=====							
cycle:1	0	140	SUB	R6, R4	, R5				
registe									

cycle:1	0 0 0 0 1 5	10 0 0 0	0 40 0 0	6 0 0	0 0 0	2 0 0	-2 0	0 0	
r08: r16: r24: data: 172: 204: 236: ======	0 0 0	0 0 0	40 0 0	0	0	0			
r16: r24: data: 172: 204: 236: ======	0 0 1 5 0	0 0	0	0	0		U		
r24: data: 172: 204: 236: ====== cycle:1	0 1 5 0	0	0			U	0		
data: 172: 204: 236: ====== cycle:1	1 5 0	3		0	Ü	^	0	0	
172: 204: 236: ====== cycle:1	5 0		2			0	0	0	
204: 236: ====== cycle:1	5 0		2						
236: ====== cycle:1	0	-5	-3	-1	-2	3	0	0	
====== cycle:1			6	0	0	0	0	0	
cycle:1		0	0	0	0	0	2	10	
		144	J	#152					
registe r00:	ers: 0	10	0	6	0	2	-2	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	6	0	0	0	0	0	
236:	0	0	0	0	0	0	2	10	
			-	-	-	*	-	-	
====== cycle:1		152	SW	R6, 1	72(R10)				
registe	ers:								
r00:	0	10	0	6	0	2	-2	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
.21.	U	U	U	U	U	U	U	O	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	10	
cycle:1	.3	156	ADDI	R1, R	1, #-1				
registe			_						
r00:	0	9	0	6	0	2	-2	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	10	
cycle:1	.4	160	SW	R1, 2	64(R0)				
registe									
r00:	0	9	0	6	0	2	-2	0	
r08:	0	0	40	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	9	

test3_	sim.txt	:							Page 4 of 32
===== cycle:		164	J	#112					
сусте.	15	104	U	#112					
regist		0	0	_	0	0	0	0	
r00: r08:	0 0	9 0	0 40	6 0	0 0	2 0	-2 0	0 0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	9	
	======								
cycle:	16	112	LW	R1, 2	64(R0)				
regist		^	0	_	•	0	•	0	
r00:	0	9	0 40	6	0 0	2	-2	0	
r08: r16:	0 0	0	40 0	0 0	0	0	0 0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	9	
		======							
cycle:	17	116	BLTZ	R1, #	:48				
regist			_	_		_		_	
r00:	0	9	0	6	0	2	-2	0	
r08: r16:	0	0	40 0	0 0	0 0	0	0 0	0	
r24:	0 0	0	0	0	0	0	0	0	
do+o.									
data: 172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	9	
	======	======							
cycle:	18	120	SLL	R10,	R1, #2				
regist									
r00:	0	9	0		0	2	-2	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0 0	0 0	0	0	0	0	
r24:	0	0	U	U	0	0	0	0	
data: 172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	-3 -2	0	0	0	0	0	
236:	0	0	0	Ō	0	0	2	9	
	======								
cycle:		124	LW	R3, 1	72(R10)				
regist	ers:								
r00:	0	9	0	-5	0	2	-2	0	
r08:	0	0	36	0	0	0	0	0	
	0	0	0	0	0	0	0	0	
r16: r24:	0	0	0	0	0	0	0	0	

test3_	sim.txt	5							Page 5 of 3
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	9	
===== cycle:		128	LW	R4, 2	16(R10)				
regist	ers:								
r00:	0	9	0	-5	0	2	-2	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3_	-3	-1	-2	3	0	0	
204:	5	-5	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	9	
===== cycle:		132	LW	R5. 2	60(R0)				
		_02		, 2	(0)				
regist r00:	ers: 0	9	0	-5	0	2	-2	0	
r00: r08:	0	0	0 36	-5 0	0	0	-2 0	0	
					0				
r16:	0	0 0	0 0	0 0	0	0 0	0 0	0	
r24:	0	U	U	U	U	U	U	U	
data: 172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	-3 -2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	9	
			U	U	U	U	2	9	
===== cycle:		136	BLTZ	R3, #	8				
regist	ers:								
r00:	0	9	0	-5	0	2	-2	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	1	2	2	4	2	2	0	0	
172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	9	
===== cycle:		148	ADD	R6, R	4, R5				
-									
regist ~00:		۵	0	E	0	2	2	0	
r00: r08:	0 0	9 0	0 36	-5 0	0 0	2 0	2 0	0 0	
ru8: r16:	0	0	36 0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
data: 172:	1	3	-3	-1	-2	3	0	0	
204:	5	-5	-3 -2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	9	
=====		======							
cycle:	2.4	152	SW	R6 1	72(R10)				

cescs_	sim.txt	5							Page 6 of 3
regist	ers:								
r00:	0	9	0	-5	0	2	2	0	
r08:	0	0	36	0	0	0	0	0	
				0	0			0	
r16:	0	0	0			0	0		
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	9	
=====	======	======							
cycle:	25	156	ADDI	R1, R	1, #-1				
regist	ers:								
r00:	0	8	0	-5	0	2	2	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	Ö	
r24:	0	0	0	0	0	0	0	0	
141.	U	U	U	U	J	U	J	U	
data:	-	2	2	-	_	2	^	•	
172:	1	3	-3	-1	-2	3	0	0	
204:	5	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	9	
		======							
cycle:	26	160	SW	R1, 2	64(R0)				
regist	ers:								
r00:	0	8	0	-5	0	2	2	0	
r08:	0	0	36	0	0	0	0	0	
		0		0	0	0	0	0	
r16:	0		0						
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	8	
	======	======							
cycle:	27	164	J	#112					
regist	ers:								
r00:	0	8	0	-5	0	2	2	0	
r08:	0	0	36	0	0	0	0	Ö	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
141.	U	U	U	U	J	U	J	U	
data:	1	2	2	-1	2	2	0	0	
172:	1	3	-3	-1	-2	3	0	0	
204:	5	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	8	
		110	T ***	D1 1	(4/50)				
cycle:	<b>∠</b> ၓ	112	LW	кі, 2	64(R0)				
regist			_		_			_	
r00:	0	8	0	-5	0	2	2	0	
r08:	0	0	36	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172: 204:	1	3	-3	-1	-2	3	0	0	
	5	2	-2	0	0	0	0	0	

test3_	sim.txt	;							Page 7 of 32
236:	0	0	0	0	0	0	2	8	
===== cycle:		116	BLTZ	R1, ‡	±48				
0,010			2212	101	1 2 0				
regist		_	_	_	_	_	_	_	
r00:	0	8	0	-5	0 0	2 0	2	0	
r08: r16:	0 0	0 0	36 0	0 0	0	0	0 0	0 0	
r24:	0	0	0	0	0	0	0	0	
121	Ü	Ü	Ü	Ü	Ü	Ü	J	Ü	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204: 236:	5 0	2	-2 0	0 0	0 0	0	0 2	0 8	
230.	U	U	U	U	U	U	2	8	
===== cycle:		120	SLL	R10,	R1, #2				
regist	ers:								
r00:	0	8	0	-5	0	2	2	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	1	2	2	-	•	2	0	0	
172: 204:	1 5	3 2	-3 -2	-1 0	-2 0	3 0	0 0	0 0	
236:	0	0	0	0	0	0	2	8	
===== cycle:		124	LW	D2 1	172(R10)				
Cycic.	31	121	ши	10, 1	1/2(1(10)				
regist		_		-	_	_	_	_	
r00:	0	8	0	5	0	2	2	0	
r08:	0	0	32	0	0	0	0	0	
r16: r24:	0 0	0	0 0	0 0	0 0	0	0 0	0 0	
124.	U	U	O	U	U	U	U	O	
data:		_	_		_	_		_	
172:	1	3	-3 -2	-1	-2	3 0	0 0	0	
204: 236:	5 0	2 0	-2 0	0 0	0 0	0	2	0 8	
			ŭ	Ü	ŭ	Ü	_	ŭ	
cycle:		128	LW	R4, 2	216(R10)				
regist									
r00:	0	8	0	5 0	0	2	2	0	
r08:	0	0	32		0		0	0	
r16: r24:	0 0	0 0	0 0	0 0	0 0	0	0 0	0 0	
	J	Ü	Ü	J	J	3	5	Ü	
data: 172:	1	3	-3	-1	-2	3	0	0	
204:	5	2	-3 -2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	8	
	====	======							
cycle:		132	LW	R5, 2	260(R0)				
regist									
r00:	0	8	0	5	0	2	2	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	

test3_	sim.txt	=							Page 8 of 32
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	8	
	======	======							
cycle:	34	136	BLTZ	R3, #	8				
regist									
r00:	0	8	0	5	0	2	2	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	8	
cycle:	35	140	SUB	R6, R	4, R5				
regist		0	0	_	0	2	0	0	
r00:	0	8	0	5	0	2	-2	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	5	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	8	
		======	_	U1 F 0					
cycle:	36	144	J	#152					
regist				_		-	_		
r00:	0	8	0	5	0	2	-2	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:		_	_	_	_	_	_	_	
172:	1	3	-3	-1	-2	3	0	0	
204:	5	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	8	
===== cycle:		152	SW	D6 1	72(R10)				
		192	W	NO, I	, 2 (IXIU)				
regist		•		_	•	_	_	•	
r00:	0	8	0	5	0	2	-2	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:			_		_	-			
172:	1	3	-3	-1	-2	3	0	0	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	8	
===== cycle:		156	ADDI		1, #-1				

cesco_	sim.txt	;							Page 9 of 3
regist	ers:								
r00:	0	7	0	5	0	2	-2	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	1	2	2	1	2	2	0	0	
204:	1	3	-3	-1	-2	3			
204:	-2 0	2	-2 0	0	0 0	0 0	0 2	0 8	
230.	U	U	U	U	U	U	2	8	
		======							
cycle:	39	160	SW	R1, 2	264(R0)				
regist	ers:								
r00:	0	7	0	5	0	2	-2	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	ŭ	•	•	Ü	J	3	J	•	
data:		_							
172:	1	3	-3	-1	-2	3	0	0	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	7	
=====	======	======							
cycle:	40	164	J	#112					
regist	erg:								
r00:	0	7	0	5	0	2	-2	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:				_	_	-			
172:	1	3	-3	-1	-2	3	0	0	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	7	
=====		======							
cycle:	41	112	LW	R1, 2	264(R0)				
regist	ers:								
r00:	0	7	0	5	0	2	-2	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	7	
		======							
cycle:	42	116	BLTZ	R1, ‡	<b>448</b>				
regist	ers:								
r00:	0	7	0	5	0	2	-2	0	
r08:	0	0	32	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									

236: 0 0 0 0 0 0 0 2 7  ***Sycle:43 120 SLL R10, R1, #2  ***registers: ***C00: 0 7 0 5 0 2 -2 0  ***Sicher 1 3 0 0 0 0 0 0 0 0 0 0  ***Intal 2	test3_	sim.txt	:							Page 10 of 3
pycle:43	204:									
registers:  regist	236:	0	0	0	0	0	0	2	7	
registers:										
100: 0 7 0 28 0 0 2 2 -2 0 0 0 0 0 16: 0 0 0 0 28 0 0 0 0 0 0 0 0 0 0 0 0 0 0	cycle:	43	120	SLL	R10,	R1, #2				
108: 0 0 28 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0										
116: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	r00:									
Second   S										
Tata:  172: 1	r16:	0	0	0		0	0	0	0	
172: 1 3 3 -3 -1 -2 3 0 0 0 104: -2 2 2 -2 0 0 0 0 0 2 7 236: 0 0 0 0 0 0 0 2 7 236: 0 0 0 0 0 0 0 0 0 0 0 0 236: 0 0 0 0 0 0 0 0 0 0 0 0 237: 0 0 0 0 0 0 0 0 0 0 0 237: 0 0 0 0 0 0 0 0 0 0 0 0 244: 0 0 0 0 0 0 0 0 0 0 0 0 244: 0 0 0 0 0 0 0 0 0 0 0 0 244: 0 0 0 0 0 0 0 0 0 0 0 0 244: 0 0 0 0 0 0 0 0 0 0 0 0 244: 0 0 0 0 0 0 0 0 0 0 0 0 244: 0 0 0 0 0 0 0 0 0 0 0 0 244: 0 0 0 0 0 0 0 0 0 0 0 0 0 256: 0 0 0 0 0 0 0 0 0 0 0 0 0 257: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 258: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 259: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 259: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 259: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 259: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 259: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 259: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	r24:	0	0	0	0	0	0	0	0	
204: -2	data:									
### Property of the property o	172:	1	3	-3	-1	-2	3	0	0	
### Property of the property o	204:	-2	2	-2	0	0	0	0	0	
registers:	236:				0	0	0	2	7	
registers:	=====	======	======							
100: 0 7 0 0 0 0 2 -2 0 0 0 0 0 0 0 0 0 0 0 0 0	cycle:	44	124	LW	R3, 1	.72(R10)				
100: 0 7 0 0 0 0 2 -2 0 0 0 0 0 0 0 0 0 0 0 0 0	regist	ers:								
16: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	r00:	0	7	0	0	0	2	-2	0	
### Segisters:  ### Color	r08:	0	0	28	0	0	0	0	0	
### Segisters:  ### Color	r16:	0	0	0	0	0	0	0	0	
172: 1 3 -3 -1 -2 3 0 0 0 204: -2 2 2 -2 0 0 0 0 0 0 336: 0 0 0 0 0 0 0 2 7  1825-1828	r24:									
172: 1 3 -3 -1 -2 3 0 0 0 204: -2 2 2 -2 0 0 0 0 0 0 336: 0 0 0 0 0 0 0 2 7  1825-1828	data:									
204: -2	172:	1	3	-3	-1	-2	3	Ο	Ω	
236: 0 0 0 0 0 0 0 0 2 7  237  238  239  249  259  259  259  259  259  259  25										
Expression of the property of										
Prycle: 45	230•	U	U	U	U	U	U	2	/	
registers: r00: 0 7 0 0 0 0 2 -2 0 r08: 0 0 0 28 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 r16: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				T.W	R4 2	16(R10)				
COO: 0 7 0 0 0 0 2 -2 0 0 0 0 0 0 0 0 0 0 0 0 0			120	₩,	NT, 2	110(1110)				
008: 0 0 0 28 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0										
### Comparison of the content of the	r00:									
Rata:  172: 1	r08:	0	0	28		0		0	0	
Adata:  172: 1	r16:	0	0	0	0	0	0	0	0	
172: 1 3 -3 -1 -2 3 0 0 0 204: -2 2 -2 0 0 0 0 0 236: 0 0 0 0 0 0 0 2 7	r24:	0	0	0	0	0	0	0	0	
204: -2	data:									
204: -2	172:	1	3	-3	-1	-2	3	0	0	
236: 0 0 0 0 0 0 0 0 2 7  ==================================	204:	-2			0	0		0	0	
registers:	236:	0			0	0	0	2		
registers: -00: 0		======	======							
COO: 0 7 0 0 0 2 -2 0 0 0 0 0 0 0 0 0 0 0 0 0 0	cycle:	46	132	LW	R5, 2	60(R0)				
### Comparison of the Comparis										
c16: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	r00:									
Adata:  172: 1 3 -3 -1 -2 3 0 0  204: -2 2 -2 0 0 0 0  236: 0 0 0 0 0 2 7	r08:									
Adata:  172: 1 3 -3 -1 -2 3 0 0  204: -2 2 -2 0 0 0 0  236: 0 0 0 0 0 2 7	r16:	0								
172: 1 3 -3 -1 -2 3 0 0 204: -2 2 -2 0 0 0 0 0 236: 0 0 0 0 0 2 7  ==================================	r24:	0	0	0	0	0	0	0	0	
172: 1 3 -3 -1 -2 3 0 0 204: -2 2 -2 0 0 0 0 0 236: 0 0 0 0 0 2 7  ==================================	data:									
204: -2 2 -2 0 0 0 0 0 0 2 7  236: 0 0 0 0 0 0 0 2 7  ==================================	172:				-1	-2		0	0	
236: 0 0 0 0 0 0 0 2 7  ==================================	204:	-2			0	0		0		
cycle:47	236:									
registers: c00: 0 7 0 0 0 2 -2 0						10				
c00: 0 7 0 0 0 2 -2 0	cycle:	4 /	136	BLTZ	R3, #	8				
			7	0	0	0	2	0	0	
c08: 0 0 28 0 0 0 0 0	ruu:								0	

r16: r24:	0								
	0	0 0	0 0	0 0	0 0	0	0 0	0 0	
data: 172:	1	3	-3	-1	-2	3	0	0	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	7	
=====	======	======							
cycle:	48	140	SUB	R6, R	4, R5				
regist	ers:								
r00:	0	7	0	0	0	2	-2	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	0	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	7	
		144	<del>-</del>	шаго					
cycle:		144	J	#152					
regist		-		0	0	ā	_		
r00:	0	7	0	0	0	2	-2	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	1	2	-3	1	2	2	0	0	
204:	1 -2	3 2	-3 -2	-1 0	-2 0	3 0	0	0 0	
236:	0	0	0	0	0	0	2	7	
=====	:======	:=====							
cycle:		152	SW	R6, 1	72(R10)				
regist	ers:								
r00:	0	7	0	0	0	2	-2	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:			_			_			
172:	1	3	-3	-1	-2	3	0	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	7	
===== cycle:		156	ADDI	R1. F	1, #-1				
				, -					
regist r00:	ers: 0	6	0	0	0	2	2	0	
r00: r08:	0	6 0	0 28	0	0	2 0	-2 0	0	
ru8: r16:	0	0	28 0	0	0	0	0	0	
		0	0	0	0	0	0	0	
r24:	0	U	U	U	U	U	U	U	
data: 172:	1	3	-3	-1	-2	3	0	-2	
204:	-2	2	-3 -2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	7	
200.	U	U	U	U	U	J	۷	,	

test3_	sim.txt	;							Page 12 of 32
cycle:	52	160	SW	R1, 2	264(R0)				
regist	ers:								
r00:	0	6	0	0	0	2	-2	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
121.	O	O	O	U	O	O	O	O	
data:									
172:	1	3	-3	-1	-2	3	0	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	6	
===== cycle:		164	J	#112					
regist		6	0	0	0	^	0	0	
r00:	0	6	0	0	0	2	-2	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	6	
		======							
cycle:		112	LW	R1, 2	264(R0)				
regist	ers:								
r00:	0	6	0	0	0	2	-2	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	Ö	0	0	Ö	0	Ö	Ö	
r24:	0	0	0	0	0	0	0	0	
data:	1	2	2	1	_	2	0	0	
172:	1	3	-3 -2	-1	-2	3	0	-2	
204:	-2	2	-2 0	0 0	0	0	0 2	0 6	
236:	0	U	U	U	U	U	2	ь	
===== cycle:		116	BLTZ	R1, ‡	±48				
		-		, ,					
regist		_			_	•	_	_	
r00:	0	6	0	0	0	2	-2	0	
r08:	0	0	28	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	6	
=====	======	:======							
cycle:		120	SLL	R10,	R1, #2				
regist		6	0	0	0	2	2	0	
r00:	0	6	0	0	0	2	-2	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0 0	0 0	0 0	0 0	0	0 0	0 0	
r24:	0	U	U	U	U	U	U	U	
data:									

test3_	sim.txt	:							Page 13 of 3
172:	1	3	-3	-1	-2	3	0	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	6	
		======		<b>-2</b> 1	E0/510)				
cycle:		124	LW	R3, 1	72(R10)				
regist r00:	ers:	6	0	0	0	2	-2	0	
r00:	0	6 0	24	0	0	2 0	-2 0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	6	
					a <i>c</i> (= = = :				
cycle:	58	128	LW	R4, 2	16(R10)				
regist		6	0	0	0		_	0	
r00:	0	6	0	0	0	2	-2	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	1	2	2	-	_	2	0	6	
172:	1	3	-3	-1	-2	3	0	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	6	
===== cycle:		132	LW	R5, 2	60(R0)				
regist			0	0	0	0	^	0	
r00:	0	6	0	0	0	2	-2	0	
r08: r16:	0 0	0 0	24 0	0 0	0 0	0 0	0 0	0	
r24:	0	0	0	0	0	0	0	0	
	Ü	Ü	Ü	Ü	Ü	Ü	Ü	Ü	
data:	1	2	2	1	2	2	0	2	
172: 204:	1 -2	3 2	-3 -2	-1 0	-2	3	0 0	-2	
236:	-2 0	0	-2 0	0	0	0 0	2	0 6	
			Ü	J	Ü	3	-	v	
===== cycle:		136	BLTZ	R3, #	8				
		250		, π	-				
regist		_	0	0	0	0	^	0	
00	0	6	0	0	0	2	-2	0	
r00:	0	0 0	24 0	0	0	0	0 0	0 0	
r08:	0	0	0	0	0	0	0	0	
r08: r16:	0								
r08: r16: r24:	0		2	-1	-2	3	0	-2	
r08: r16: r24: data:		3			0	0	0	0	
r08: r16: r24: data: 172:	1	3	-3 -2	Λ		0	2	6	
r08: r16: r24: data: 172: 204:	1 -2	2	-2	0			4	U	
r08: r16: r24: data: 172: 204: 236:	1 -2 0	2		0	0	0			
r08: r16: r24: data: 172: 204: 236:	1 -2 0	2 0	-2 0	0	0	Ü			
r08: r16: r24: data: 172: 204: 236: ====== cycle:	1 -2 0	2	-2		0	Ü			
r08: r16: r24: data: 172: 204: 236:	1 -2 0	2 0	-2 0	0	0	2	-2	0	

test3_	sim.txt	:							Page 14 of 3
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	Ö	Ö	
r24:	0	0	0	0	0	0	0	0	
121.	O	O	O	U	O	O	O	O	
data:									
172:	1	3	-3	-1	-2	3	0	-2	
204:	-2	2	-2	0	0	0	Ö	0	
236:	0	0	0	0	0	0	2	6	
		======							
cycle:	62	144	J	#152					
regist	o 20 G •								
		_	0	^	0	2	2	0	
r00:	0	6	0	0	0	2	-2	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	0	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	6	
	J	J	J	0	5	3	-	J	
		======							
cycle:	63	152	SW	R6, 1	L72(R10)				
regist	ere.								
regist r00:	ers. O	6	0	0	0	2	-2	0	
r00: r08:	0	0	24	0	0	0	-2 0	0	
ru8: r16:		0	24 0	0	0		0	0	
	0	0		0	0	0 0	0	0	
r24:	0	U	0	U	U	U	U	U	
data:									
172:	1	3	-3	-1	-2	3	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	6	
===== cycle:		156	ADDI	R1 R	R1, #-1				
C)CIC:	01	130	11001	1(1)	(1) 11 1				
regist									
r00:	0	5	0	0	0	2	-2	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
a									
data:	1	2	2	-1	0	2	^	0	
	1	3		-1	-2	3	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	6	
		======							
cycle:	65	160	SW	R1, 2	264(R0)				
maed of	owe.								
regist		E	0	0	0	2	2	0	
r00:	0	5		0	0	2	-2	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	5	

		======							
cycle:		164	J	#112					
regist	ers:								
r00:	0	5	0	0	0	2	-2	0	
r08:	0	0	24	0	0	0	0	0	
		0		0	0	0	0	0	
r16:	0		0						
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	5	
=====	:======	======							
cycle:		112	LW	R1, 2	64(R0)				
regist	ere:								
	0	E	0	0	0	2	2	0	
r00:		5				2	-2	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	5	
250.	J	J	U	J	U	J	۷	5	
===== cycle:		116	BLTZ	R1, #	<b>.</b> Λ Ω				
сусте.	00	110	הדהה	ν <b>⊥</b> , #	-10				
regist	ers:								
r00:	0	5	0	0	0	2	-2	0	
r08:	0	0	24	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
J.L									
data:	1	2	2	-1	2	2	2	0	
172:	1	3	-3	-1	-2	3	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	5	
		======							
cycle:	69	120	SLL	R10,	R1, #2				
regist									
r00:	0	5	0	0	0	2	-2	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
								5	
236:	0	0	0	0	0	0	2	5	
		======							
cycle:	70	124	LW	R3, 1	.72(R10)				
regist	ers:								
r00:	0	5	0	3	0	2	-2	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	

test3_	sim.txt								Page 16 of 32
data: 172:	1	3	-3	-1	-2	3	-2	-2	
204:	-2	2	-3 -2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	5	
			-	-	-	-	_	-	
cycle:		128	LW	R4, 2	16(R10)				
regist	ers:								
r00:	0	5	0	3	0	2	-2	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	-	2	2	1	0	2	0	0	
172: 204:	1 -2	3 2	-3 -2	-1 0	-2 0	3 0	-2 0	-2 0	
236:	0	0	0	0	0	0	2	5	
		=====							
cycle:	72	132	LW	R5, 2	260(R0)				
regist	ers:	5	0	3	0	2	-2	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	5	
===== cycle:		136	BLTZ	R3, #	8				
				- ,					
regist	ers: 0	5	0	3	0	2	-2	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	3	-2	-2	
204:	-2 0	2 0	-2 0	0 0	0 0	0 0	0 2	0 5	
236:	U	U	U	U	U	U	2	5	
===== cycle:		140	SUB	R6, R	14, R5				
regist	ers:								
r00:	0	5	0	3	0	2	-2	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0 0	0 0	0	0	0 0	0 0	0 0	
r24:	0	U	U	U	0	U	U	U	
data: 172:	1	3	-3	-1	-2	3	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	5	
		144	<del>-</del>	ш1го					
cycle:	ers:	144	J	#152					

test3_a	sim.txt	;							Page 17 of 32
r00:	0	5	0	3	0	2	-2	0	
c08:	0	0	20	0	Ō	0	0	Ō	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	Ü	Ü	Ü	Ü	Ü	Ü	Ü	Ü	
data:									
172:	1	3	-3	-1	-2	3	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	5	
		:======	CIV	D.C. 1	70/P10)				
cycle:	/6	152	SW	K6, 1	.72(R10)				
regist		_	_		_	_	_		
r00:	0	5	0	3	0	2	-2	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	5	
		:======							
cycle:		156	ADDI	R1, F	11, #-1				
regist	erg:								
r00:	0	4	0	3	0	2	-2	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	Ü	Ü	Ü	Ü	Ü	Ü	Ü	Ü	
data:									
172:	1	3	-3	-1	-2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	5	
=====	======	:======							
cycle:	78	160	SW	R1, 2	64(R0)				
regist	ers:								
r00:	0	4	0	3	0	2	-2	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	4	
		:======							
cycle:		164	J	#112					
regist	are:								
r00:	0	4	0	3	0	2	-2	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	-	-	=	<del>-</del>	ž	ž	<u>-</u>	-	
data:	1	3	-3	-1	-2	-2	-2	-2	
172 •		2	-3 -2	0	0	0	0	0	
	_',		- /.	U	U	U	U		
172: 204: 236:	-2 0	0	0	0	0	0	2	4	

test3_	sim.txt	:							Page 18 of 32
	======	======							
cycle:	80	112	LW	R1, 2	264(R0)				
regist									
r00:	0	4	0	3	0	2	-2	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	4	
=====	======	:======							
cycle:		116	BLTZ	R1, #	48				
regist	ers:								
r00:	0	4	0	3	0	2	-2	0	
r08:	0	0	20	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
	1	3	2	1	2	-2	2	-2	
172:	1		-3	-1	-2		-2		
204:	-2	2	-2	0	0	0	0 2	0	
236:	0	0	0	0	0	0	2	4	
		======							
cycle:	82	120	SLL	R10,	R1, #2				
regist	ers:								
r00:	0	4	0	3	0	2	-2	0	
r08:	0	0	16	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	4	
		:======							
cycle:		124	LW	R3, 1	72(R10)				
regist	ere:								
		4	0	-2	0	2	-2	0	
r00: r08:	0	0	16	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	4	
	3	J	5	3	J	Ü	2	•	
=====		128	LW	R4 2	216(R10)				
		120		101, 2	0 (1010)				
cycle:				_	0	•	•	•	
cycle: regist		4	0	-2	0	2	-2	0	
cycle: regist r00:	0				0	0	0	0	
cycle: regist r00: r08:	0	0	16	0					
cycle:		0 0 0	16 0 0	0	0	0	0	0	

test3_	sim.txt	:							Page 19 of 3
data:	-	2	2	4	•	2	•	2	
172:	1	3	-3	-1	-2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	4	
===== cycle:		132	LW	R5. 2	60(R0)				
		132	2,,	113 / 2	00(110)				
regist r00:	ers: 0	4	0	-2	0	2	2	0	
	0	0	16	-2 0	0	0	-2 0	0	
r08:									
r16: r24:	0 0	0	0	0 0	0	0 0	0 0	0	
	U	U	U	U	U	U	U	U	
data: 172:	1	3	-3	-1	-2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	4	
			Ü	Ü	J	ŭ	-	-	
===== cycle:		136	BLTZ	R3, #	8				
regist	ers:								
r00:	0	4	0	-2	0	2	-2	0	
r08:	0	0	16	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	Ü	Ü	Ü	Ü	Ü	Ü	Ü	Ü	
data:	-	2	_	_	_	_	_		
172:	1	3	-3	-1	-2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	4	
===== cycle:		148	ADD	R6, R	4, R5				
regist	ers:								
r00:	0	4	0	-2	0	2	2	0	
r08:	0	0	16	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	-2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	4	
===== cycle:		152	SW	R6, 1	72(R10)				
regist	erc'								
regist	0	4	0	-2	0	2	2	0	
r08:	0	0	16	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	-	-	-	-	-	ž		-	
data: 172:	1	3	-3	-1	2	-2	-2	-2	
204:	-2	2	-3 -2	0	0	0	0	0	
	0	0	0	0	0	0	2	4	
236:									
	======	156	ADDI		1, #-1				

	sim.txt	:							Page 20 of 3
regist	ers:								
r00:	0	3	0	-2	0	2	2	0	
r08:	0	0	16	0	0	0	0	0	
				0	0	0		0	
r16:	0	0	0				0		
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	4	
	======	======							
cycle:	90	160	SW	R1, 2	64(R0)				
regist	ers:								
r00:	0	3	0	-2	0	2	2	0	
r08:	0	0	16	0	0	0	0	0	
r16:	0	Ö	0	0	0	0	0	Ö	
r24:	0	0	0	0	0	0	0	0	
124.	U	U	U	U	U	U	U	U	
data:	_	_							
172:	1	3	-3	-1	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	3	
cycle:	91	164	J	#112					
regist	ers:								
r00:	0	3	0	-2	0	2	2	0	
r08:	0	0	16	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	3	
		112	T.TAT	p1 2	64(DO)				
cycle:	92	112	LW	R1, 2	64(R0)				
cycle: regist	92 ers:	112				0	6	0	
cycle: regist r00:	92 ers: 0	112	0	-2	0	2	2	0	
cycle: regist r00: r08:	92 ers: 0	112 3 0	0 16	-2 0	0	0	0	0	
cycle: regist r00: r08: r16:	92 ers: 0 0	112 3 0 0	0 16 0	-2 0 0	0 0 0	0 0	0 0	0 0	
cycle: regist r00: r08: r16:	92 ers: 0	112 3 0	0 16	-2 0	0	0	0	0	
cycle: regist r00: r08: r16: r24: data:	92 ers: 0 0 0	3 0 0 0	0 16 0	-2 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
cycle: regist r00: r08: r16: r24: data: 172:	92 ers: 0 0 0	3 0 0 0	0 16 0 0	-2 0 0 0	0 0 0 0	0 0 0	0 0 0	0 0 0	
cycle: regist r00: r08: r16: r24: data: 172: 204:	92 ers: 0 0 0	3 0 0 0	0 16 0	-2 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
cycle: regist r00: r08: r16: r24: data: 172: 204:	92 ers: 0 0 0	3 0 0 0	0 16 0 0	-2 0 0 0	0 0 0 0	0 0 0	0 0 0	0 0 0	
regist r00: r08: r16: r24: data: 172: 204: 236:	92 ers: 0 0 0 1 -2 0	112 3 0 0 0 0	0 16 0 0	-2 0 0 0 0	0 0 0 0 0	0 0 0	0 0 0	0 0 0	
regist r00: r08: r16: r24: data: 172: 204: 236: ====== cycle:	92 ers: 0 0 0 0 1 -2 0	3 0 0 0 0	0 16 0 0	-2 0 0 0	0 0 0 0 0	0 0 0	0 0 0	0 0 0	
regist r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist	92  ers: 0 0 0 0 1 -2 0 ======93 ers:	3 0 0 0 0 3 2 0	0 16 0 0 -3 -2 0	-2 0 0 0 0	0 0 0 0 2 0 0	0 0 0 -2 0	0 0 0 -2 0 2	0 0 0 -2 0 3	
regist r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist r00:	92  ers: 0 0 0 0 0 1 -2 0  ====== 93  ers: 0	3 0 0 0 0 3 2 0	0 16 0 0 -3 -2 0	-2 0 0 0 -1 0 0 R1, #	0 0 0 0 0	0 0 0 -2 0 0	0 0 0 -2 0 2	0 0 0 -2 0 3	
regist r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist r00: r08:	92  ers: 0 0 0 0 1 -2 0  ======== 93  ers: 0 0	3 0 0 0 0 3 2 0 	0 16 0 0 0 -3 -2 0 BLTZ	-2 0 0 0 -1 0 0 R1, #	0 0 0 0 0	0 0 0 -2 0 0	0 0 0 -2 0 2	0 0 0 -2 0 3	
regist r00: r08: r16: r24: data: 172: 204: 236: ===== cycle: regist r00: r08: r16:	92 ers: 0 0 0 0 1 -2 0  ====== 93 ers: 0 0 0	112  3 0 0 0 0 3 2 0 116  3 0 0 0	0 16 0 0 -3 -2 0 BLTZ	-2 0 0 0 -1 0 0 R1, #	0 0 0 0 0 0	0 0 0 -2 0 0	0 0 0 -2 0 2	0 0 0 -2 0 3	
regist r00: r08: r16: r24: data: 172: 204: 236: ====== cycle:	92  ers: 0 0 0 0 1 -2 0  ======== 93  ers: 0 0	3 0 0 0 0 3 2 0 	0 16 0 0 0 -3 -2 0 BLTZ	-2 0 0 0 -1 0 0 R1, #	0 0 0 0 0	0 0 0 -2 0 0	0 0 0 -2 0 2	0 0 0 -2 0 3	
regist r00: r08: r16: r24: data: 172: 204: 236: ====== cycle: regist r00: r16: r24: data:	92  ers: 0 0 0 0 1 -2 0  ====== 93  ers: 0 0 0 0	30000000000000000000000000000000000000	0 16 0 0 -3 -2 0 BLTZ 0 16 0	-2 0 0 0 -1 0 0 R1, #	0 0 0 0 2 0 0	0 0 0 -2 0 0	0 0 0 -2 0 2	0 0 0 -2 0 3	
regist r00: r08: r16: r24: data: 172: 204: 236: ===== cycle: r08: r16: r16: r16: r16: r24:	92 ers: 0 0 0 0 1 -2 0  ====== 93 ers: 0 0 0	112  3 0 0 0 0 3 2 0 116  3 0 0 0	0 16 0 0 -3 -2 0 BLTZ	-2 0 0 0 -1 0 0 R1, #	0 0 0 0 0 0	0 0 0 -2 0 0	0 0 0 -2 0 2	0 0 0 -2 0 3	

test3_	sim.txt	:							Page 21 of 32
236:	0	0	0	0	0	0	2	3	
===== cycle:		120	SLL	P10	R1, #2				
Cyclc	<i>-</i>	120	511	1(10)	1(1) 112				
regist	ers:								
r00:	0	3	0	-2	0	2	2	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	3	
===== cycle:		124	LW	R3. 1	72(R10)				
			2,,	113 / 1	, 2 (1:10)				
regist	ers: 0	3	0	-1	0	2	2	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	3	
		100		D4 0	16(010)				
cycle:	96	128	LW	R4, 2	16(R10)				
regist									
r00:	0	3	0	-1	0	2	2	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	1	2	2	1	2	2	2	0	
172: 204:	1 -2	3 2	-3 -2	-1 0	2 0	-2 0	-2 0	-2 0	
236:	0	0	0	0	0	0	2	3	
		120		D.E. 0	(0/20)				
cycle:		132	LW	K5, 2	60(R0)				
regist	ers:	2	0	-1	0	2	0	0	
r00: r08:	0	3 0	0 12	-1 0	0	2 0	2 0	0 0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	3	
===== cycle:		136	BLTZ	R3, #	Ω				
		130	חודת	хэ, #	J				
regist		2	0	1	^	2	2	^	
r00: r08:	0	3 0	0 12	-1 0	0	2 0	2 0	0 0	
ru8: r16:	0	0	0	0	0	0	0	0	

test3_	sim.txt	:							Page 22 of 32
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	3	
===== cycle:		148	ADD	R6, R	4, R5				
regist	ers. 0	3	0	-1	0	2	2	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	-1	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	3	
===== cycle:		152	SW	R6, 1	72(R10)				
regist	ers:								
r00:	0	3	0	-1	0	2	2	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	1	3	-3	2	2	-2	-2	-2	
204:	-2	2	-3 -2	0	0	0	0	- Z 0	
236:	0	0	0	0	0	0	2	3	
cycle:	101	156	ADDI	R1, R	1, #-1				
regist									
r00:	0	2	0	-1	0	2	2	0	
r08:	0	0	12	0	0	0	0	0	
r16: r24:	0	0	0 0	0 0	0 0	0	0 0	0 0	
	U	U	U	U	U	U	U	U	
data:	-	2	_	0		_	_	-	
172:	1	3	-3	2	2	-2	-2	-2	
204: 236:	-2 0	2	-2 0	0 0	0 0	0 0	0 2	0 3	
			U	U	U	U	4	3	
===== cycle:		160	SW	R1, 2	64(R0)				
regist	ers:								
r00:	0	2	0	-1	0	2	2	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	1	3	-3	2	2	-2	-2	-2	
204:	1 -2	2	-3 -2	0	0	-2 0	-2 0	-2 0	
236:	0	0	0	0	0	0	2	2	
=====	======	164							

	sim.txt	:							Page 23 of 3
regist	erg:								
r00:	0	2	0	-1	0	2	2	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
124.	U	U	U	U	U	U	U	U	
data:									
172:	1	3	-3	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	2	
cycle:	104	112	LW	R1, 2	264(R0)				
regist	erg:								
r00:	0	2	0	-1	0	2	2	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	U	U	U	U	J	J	J	J	
data:									
172:	1	3	-3	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	2	
===== cycle:		116	סית זכן	R1, #	<b>Ι</b> ΛΩ				
сусте:	103	ΤΤΩ	BLTZ	<b>Ľ</b> Τ, ∄	70				
regist	ers:								
r00:	0	2	0	-1	0	2	2	0	
r08:	0	0	12	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	Ō	0	Ō	
data:									
172:	1	3	-3	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	2	
		======							
cycle:		120	SLL	R10,	R1, #2				
regist				_	-	-	-		
r00:	0	2	0	-1	0	2	2	0	
	0	0	8	0	0	0	0	0	
	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r16:									
r16: r24:									
r16: r24: data:	1	3	-3	2	2	-2	-2	- 2	
r16: r24: data: 172:	1 -2	3	-3 -2	2	2	-2 0	-2 0	-2 0	
r16: r24: data: 172: 204:	-2	2	-2	0	0	0	0	0	
r16: r24: data: 172: 204:									
	-2 0	2 0	-2 0	0	0	0	0	0	
r16: r24: data: 172: 204: 236:	-2 0	2	-2	0	0	0	0	0	
r16: r24: data: 172: 204: 236: ====== cycle:	-2 0 ======= 107	2 0	-2 0	0	0	0	0	0	
r16: r24: data: 172: 204: 236: ===== cycle: regist	-2 0 :===== 107 :ers:	2 0 ====== 124	-2 0 LW	0 0 R3, 1	0 0 .72(R10)	0	0 2	0 2	
r16: r24: data: 172: 204: 236: ===== cycle: regist r00:	-2 0 ======= 107 ters: 0	2 0 ======= 124	-2 0 LW	0 0 R3, 1	0 0 .72(R10)	0 0	0 2 2	0 2	
r16: r24: data: 172: 204: 236: ===== cycle: regist r00: r08:	-2 0 ======= 107 ers: 0 0	2 0 ======= 124 2 0	-2 0 LW 0 8	0 0 R3, 1	0 0 .72(R10) 0 0	0 0	0 2 2	0 2 0 0	
r16: r24: data: 172: 204: 236: ===== cycle: regist r00: r08: r16:	-2 0 107 eers: 0 0	2 0 ======= 124 2 0 0	-2 0 LW 0 8	0 0 R3, 1 -3 0	0 0 .72(R10) 0 0 0	0 0 2 0 0	0 2 2 0 0	0 2 0 0	
r16: r24: data: 172: 204: 236: ===== cycle: regist r00: r08:	-2 0 ======= 107 ers: 0 0	2 0 ======= 124 2 0	-2 0 LW 0 8	0 0 R3, 1	0 0 .72(R10) 0 0	0 0	0 2 2	0 2 0 0	
r16: r24: data: 172: 204: 236: ===== cycle: regist r00: r08: r16:	-2 0 107 eers: 0 0	2 0 ======= 124 2 0 0	-2 0 LW 0 8	0 0 R3, 1 -3 0	0 0 .72(R10) 0 0 0	0 0 2 0 0	0 2 2 0 0	0 2 0 0	

cescs_	sim.txt	:							Page 24 of 32
204: 236:	-2 0	2	-2 0	0 0	0 0	0	0 2	0 2	
cycle:		128	LW	R4, 2	16(R10)				
regist	ers:								
r00:	0	2	0	-3	0	2	2	0	
r08:	0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	-3	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	2	
		122	T T-7	DE 0	CO (DO)				
cycle:		132	LW	кэ, 2	60(R0)				
regist		2	0	2	0	0	0	0	
r00:	0	2	0	-3 0	0	2	2	0	
r08: r16:	0 0	0	8 0	0 0	0 0	0 0	0 0	0 0	
r16. r24:	0	0	0	0	0	0	0	0	
	J	J	5	5	J	J	J	U	
data: 172:	1	3	2	2	0	2	2	2	
172. 204:	1 -2	2	-3 -2	2 0	2 0	-2 0	-2 0	-2 0	
204. 236:	0	0	0	0	0	0	2	2	
230.	U	U	U	U	U	U	2	2	
===== cycle:		136	BLTZ	R3, #	8				
		250	2212	100 / 11					
regist		2	0	-3	0	2	2	0	
r00:	0	2	0		0	2	2	0	
r08:	0	0	8	0	0	0	0	0	
r16: r24:	0 0	0	0 0	0	0 0	0 0	0 0	0 0	
124.	U	U	U	U	U	U	U	U	
data: 172:	1	3	-3	2	2	-2	-2	-2	
204:	-2	2	-3 -2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	2	
			Ü	Ü	Ü	Ü	2	2	
===== cycle:		148	ADD	R6, R	4, R5				
				•	•				
regist r00:		2	0	-3	0	2	2	0	
r00: r08:	0 0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
da+-•									
data: 172:	1	3	-3	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	2	
		1.0	OL.	DC 1	70/P10:				
cycle:		152	SW	ко, 1	72(R10)				
regist	ers: 0	2	0	2	0	2	2	0	
r00:		7.	0	-3	0	2	2	0	

test3_	sim.txt	-							Page 25 of 32
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	2	
cycle:		156	ADDI	R1, F	21, #-1				
-									
registero:	ers: 0	1	0	-3	0	2	2	0	
r08:	0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
124.	O	U	O	O	O	O	O	O	
data:	1	2	2	2	0	0	0	0	
172:	1	3	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	2	
cycle:		160	SW	R1, 2	264(R0)				
			•	, -	, -,				
regist		4	^	2	^	^	•	^	
r00:	0	1	0	-3	0	2	2	0	
r08:	0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	1	3	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	-2 0	-2 0	-2 0	
236:	0	0	0	0	0	0	2	1	
			0	O	O	0	2	1	
cycle:		164	J	#112					
regist		1	0	2	0	0		0	
r00:	0	1	0	-3	0	2	2	0	
r08:	0	0	8	0	0	0	0	0	
r16: r24:	0 0	0 0	0 0	0	0 0	0 0	0 0	0 0	
124.	U	U	U	U	U	U	U	U	
data: 172:	1	3	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	1	
		-							
cycle:		112	LW	R1, 2	264(R0)				
regist									
r00:	0	1	0	-3	0	2	2	0	
r08:	0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	1	2	2	0	2	•	_	0	
172:	1	3	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	1	
		======							

test3_s	sim.txt	:							Page 26 of 3
cycle:	117	116	BLTZ	R1, ‡	‡ <b>4</b> 8				
regist	ers:								
r00:	0	1	0	-3	0	2	2	0	
r08:	0	0	8	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	Ō	Ō	0	0	
	Ü	ŭ	Ü	Ü	· ·	Ü	Ü	· ·	
data:									
172:	1	3	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	1	
====== cycle:		120	SLL	P10	R1, #2				
C/CIC.	110	120		1110,	NI, 112				
regist		1	0	2	0	•	0	0	
r00:	0	1	0	-3	0	2	2	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	1	
cycle:		124	LW	R3, 1	172(R10)				
registe r00:	o 0	1	0	3	0	2	2	0	
		0		3 0	0	2 0			
r08:	0	0	4 0	0	0	0	0 0	0 0	
r16:	0								
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	1	
=====	======	======							
cycle:	120	128	LW	R4, 2	216(R10)				
regist	ers:								
r00:	0	1	0	3	0	2	2	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	1	
			J	5	U	U	۷	_	
====== cycle:		132	LW	R5, 2	260(R0)				
				, -					
regist		_					_		
r00:	0	1	0	3	0	2	2	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									

test3_	sim.txt								Page 27 of 3
172:	1	3	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	1	
		======		- 0 "					
cycle:		136	BLTZ	R3, #	8				
regist r00:	ers: 0	1	0	3	0	2	2	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	3	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	1	
		140	CIID	DE D	/ DF				
cycle:		140	SUB	R6, R	4, K5				
regist		1	0	2	0	2	2	0	
r00:	0	1	0	3	0	2	-2	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	_					_	_	ē	
172:	1	3	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	1	
===== cycle:		144	J	#152					
regist		1	0	2	0	2	2	0	
r00: r08:	0 0	1 0	0 4	3 0	0	2 0	-2 0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	U	O	O	O	0	U	O	0	
					_		2		
data:	1	2	2	2					
data: 172:	1	3	2	2	2	-2	-2	-2	
data: 172: 204:	-2	2	-2	0	0	0	0	0	
data:									
data: 172: 204: 236:	-2 0	2 0 ======	-2 0	0	0	0	0	0	
data: 172: 204: 236: ===== cycle:	-2 0 :====== 125	2	-2 0	0	0	0	0	0	
data: 172: 204: 236: ===== cycle:	-2 0 :====== 125 ers:	2 0 ====== 152	-2 0 SW	0 0 R6, 1	0 0 72(R10)	0	0 2	0	
data: 172: 204: 236: ===== cycle: regist r00:	-2 0 ======= 125 ers: 0	2 0 ====== 152	-2 0 SW	0 0 R6, 1	0 0 72(R10)	0 0	0 2 -2	0 1	
data: 172: 204: 236: ===== cycle: regist r00: r08:	-2 0 ======= 125 ers: 0	2 0 ====== 152 1 0	-2 0 SW 0 4	0 0 R6, 1	0 0 72(R10) 0 0	0 0 2 0	0 2 -2 0	0 1 0 0	
data: 172: 204: 236: ===== cycle: regist r00: r08: r16:	-2 0 ======= 125 ers: 0	2 0 ====== 152	-2 0 SW	0 0 R6, 1	0 0 72(R10)	0 0	0 2 -2	0 1	
data: 172: 204: 236:  ===== cycle: regist r00: r08: r16: r24:	-2 0 ======= 125 ers: 0 0	2 0 ====== 152 1 0	-2 0 SW 0 4 0	0 0 R6, 1 3 0	0 0 72(R10) 0 0	0 0 2 0 0	0 2 -2 0 0	0 1 0 0	
data: 172: 204: 236: ===== cycle: regist r00: r08: r16: r24: data:	-2 0 125 ers: 0 0	2 0 ====== 152 1 0 0	-2 0 SW 0 4 0	0 0 R6, 1 3 0 0	0 0 72(R10) 0 0 0	2 0 0	-2 0 0	0 1	
data: 172: 204: 236: ====== cycle: regist r00: r08: r16: r24: data: 172:	-2 0 :====== 125 .ers: 0 0 0	2 0 ====== 152 1 0 0 0	-2 0 SW 0 4 0	0 0 R6, 1 3 0 0	0 0 72(R10) 0 0 0	0 0 0	-2 0 0 0	0 1 0 0 0 0	
data: 172: 204: 236: ====== cycle: regist r00: r08: r16: r24: data: 172: 204:	-2 0 ======= 125 ers: 0 0 0	2 0 ====== 152 1 0 0 0	-2 0 SW 0 4 0 0	0 0 0 R6, 1 3 0 0 0	0 0 72(R10) 0 0 0 0	0 0 0 2 0 0 0	0 2 -2 0 0 0	0 1 0 0 0 0 0	
data: 172: 204: 236: ====== cycle: r00: r08: r16: r24: data: 172: 236:	-2 0 ======= 125 ers: 0 0 0 0	2 0 ====== 152 1 0 0 0 0	-2 0 SW 0 4 0	0 0 R6, 1 3 0 0	0 0 72(R10) 0 0 0	0 0 0	-2 0 0 0	0 1 0 0 0 0	
data: 172: 204: 236: ====== cycle: regist r00: r16: r24: data: 172: 204: 236: =====	-2 0 ======== 125 ers: 0 0 0 0	2 0 ======= 152 1 0 0 0 0	-2 0 SW 0 4 0 0	0 0 0 R6, 1 3 0 0 0	0 0 72(R10) 0 0 0 0	0 0 0 2 0 0 0	0 2 -2 0 0 0	0 1 0 0 0 0 0	
data: 172: 204: 236: ===== cycle: regist r00: r16: r24: data: 172: 204: 236: ===== cycle:	-2 0 ======= 125 ers: 0 0 0 0 1 -2 0	2 0 ====== 152 1 0 0 0 0	-2 0 SW 0 4 0 0	0 0 0 R6, 1 3 0 0 0	0 0 72(R10) 0 0 0 0	0 0 0 2 0 0 0	0 2 -2 0 0 0	0 1 0 0 0 0 0	
data: 172: 204: 236: ====== cycle: regist r00: r16: r24: data: 172: 204: 236: ======	-2 0 ======= 125 ers: 0 0 0 0 1 -2 0	2 0 ======= 152 1 0 0 0 0	-2 0 SW 0 4 0 0	0 0 0 R6, 1 3 0 0 0	0 0 72(R10) 0 0 0 0	0 0 0 2 0 0 0	0 2 -2 0 0 0	0 1 0 0 0 0 0	

test3_s	sim.txt	:							Page 28 of 32
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	Ö	0	Ō	
r24:	0	0	0	0	0	0	0	0	
121.	U	O	O	O	O	0	O	O	
data:									
172:	1	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	1	
230.	U	U	U	U	U	U	2	1	
		======							
cycle:1	L27	160	SW	R1, 2	264(R0)				
registe	are:								
r00:	0	0	0	3	0	2	-2	0	
		0	4	0		0			
r08:	0				0		0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
		0		0	0	0	2	0	
236:	0	U	0	U	U	U	2	U	
		======							
cycle:1	L28	164	J	#112					
registe	ers:								
r00:	0	0	0	3	0	2	-2	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
124.	U	U	U	U	U	U	U	U	
data:									
172:	1	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	0	
cycle:1		112	LW	R1, 2	264(R0)				
-				,	. ,				
registe	ers:								
r00:	0	0	0	3	0	2	-2	0	
r08:	0	0	4	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
		-	•	-	-	-	-	-	
data:									
	1	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	0	
	J	J	5	J	J	•		•	
					1.40				
cycle:1	L3U	116	BLTZ	R1, ‡	<del>74</del> 8				
registe	are:								
registe r00:	0	0	0	3	0	2	-2	0	
						0			
r08:	0	0	4	0	0		0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	0	
	-	•	,	J	ŭ	•	_	<u> </u>	

	sim.txt	:======							Page 29 of 32
cycle:		120	SLL	R10,	R1, #2				
regist	erg:								
r00:	0	0	0	3	0	2	-2	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
121.	U	U	U	U	U	U	U	0	
data:									
172:	1	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	0	
cycle:		124	LW	R3. 1	72(R10)				
0,010	102			113 / 1	, 2 (1120)				
regist									
r00:	0	0	0	1	0	2	-2	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
data: 172:	1	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	-2 0	0	-2 0	0	0	0	2	0	
200.	U	U	U	U	J	U	۷	U	
		======							
cycle:	133	128	LW	R4, 2	216(R10)				
regist	ers:								
r00:	0	0	0	1	0	2	-2	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data: 172:	1	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	0	
=====	======	======							
cycle:	134	132	LW	R5, 2	260(R0)				
regist	ers:								
r00:	0	0	0	1	0	2	-2	0	
r08:		0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:	_	_			-	_	_	-	
172:	1	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	0	
	======	======							
cycle:	135	136	BLTZ	R3, ‡	8				
regist	era.								
r00:	0	0	0	1	0	2	-2	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
T T O .	0	0	0	0	0	0	0	0	
r24:								1.7	

test3_	sim.txt	;							Page 30 of 32
data:		_		_	_	_	_	_	
172:	1	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	0	
===== cycle:		140	SUB	R6, I	R4, R5				
regist			0	-		0			
r00:	0 0	0	0 0	1 0	0 0	2 0	-2 0	0	
r08: r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
121.	Ü	O	O	O	O	O	O	O	
data:	1	0	0	0	0	0	0	0	
172:	1	-2	2	2	2	-2	-2	-2	
204: 236:	-2 0	2 0	-2 0	0 0	0 0	0	0 2	0	
			Ü	O	Ü	Ü	2	O	
cycle:		144	J	#152					
regist	ers:								
r00:	0	0	0	1	0	2	-2	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	1	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	0	
		150			170/510)				
cycle:	138	152	SW	К6,	172(R10)				
regist		0	0	1	0	0	2	0	
r00: r08:	0 0	0	0 0	1 0	0 0	2 0	-2 0	0	
rus:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
121.	O	O	O	O	O	O	O	O	
data:	6	-				_	•	6	
172:	-2	-2	2 -2	2 0	2 0	-2 0	-2 0	-2	
204: 236:	-2 0	2 0	-2 0	0	0	0	2	0	
230.	U	U	U	O	U	U	2	U	
===== cycle:	====== 139	156	ADDI	R1, F	R1, #-1				
regist	ers:								
r00:	0	-1	0	1	0	2	-2	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-2	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	0	
===== cycle:		160	SW	R1 1	264(R0)				
olorc.	_ 10	100	511	111, 2					

	sim.txt	;							Page 31 of 3
r00:	0	-1	0	1	0	2	-2	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	ŭ	Ü	Ü	Ü	· ·	Ü	· ·	Ü	
data:									
172:	-2	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	-1	
		164	J	#112					
cycle:	141	104	U	#112					
regist									
r00:	0	-1	0	1	0	2	-2	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-2	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	-1	
=====	======	======							
cycle:		112	LW	R1,	264(R0)				
regist									
r00:	0	-1	0	1	0	2	-2	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
data:									
172:	-2	-2	2	2	2	-2	-2	-2	
204:	-2	2	-2	0	0	0	0	0	
236:	0	0	0	0	0	0	2	-1	
=====	======	======							
cycle:	143	116	BLTZ	R1,	#48				
regist									
r00:	0	-1	0	1	0	2	-2	0	
r08:	0	0	0	0	0	0	0	0	
r16:	0	0	0	0	0	0	0	0	
r24:	0	0	0	0	0	0	0	0	
	-2	-2	2	2	2	-2	-2	-2	
172:	_	2	-2	0	0	0	0	0	
172: 204:	-2						_	_	
172: 204:	-2 0	0	0	0	0	0	2	-1	
172: 204: 236: =====	-2 0	0	0	0	0	0	2	-1	
172: 204: 236: =====	-2 0	0		0	0	0	2	-1	
172: 204: 236: ===== cycle: regist	-2 0 :====== 144	0	0	0	0	0	2	-1	
172: 204: 236: ===== cycle: regist r00:	-2 0 :====== 144	0	0	0	0	2	2 -2	-1	
172: 204: 236: ===== cycle: regist r00: r08:	-2 0 :===== 144 ers:	0 ======= 168 -1 0	0 BREAK	1 0		2 0	-2 0		
172: 204: 236: ====== cycle: regist r00: r08: r16:	-2 0 ======= 144 ers: 0	0 ======= 168 -1 0 0	0 BREAK 0 0 0	1 0 0	0 0 0	2 0 0	-2 0 0	0 0 0	
172: 204: 236: ====== cycle: regist r00: r08: r16:	-2 0 144 ers: 0	0 ======= 168 -1 0	0 BREAK 0 0	1 0	0	2 0	-2 0	0 0	
cycle: regist r00: r08: r16: r24:	-2 0 ======= 144 ers: 0 0	0 ======= 168 -1 0 0	0 BREAK 0 0 0	1 0 0	0 0 0	2 0 0	-2 0 0	0 0 0	
172: 204: 236: ====== cycle: regist r00: r08: r16:	-2 0 ======= 144 ers: 0 0	0 ======= 168 -1 0 0	0 BREAK 0 0 0	1 0 0	0 0 0	2 0 0	-2 0 0	0 0 0	
172: 204: 236: ====== cycle: regist r00: r16: r16: r24: data:	-2 0 144 ers: 0 0 0	0 ====== 168 -1 0 0	0 BREAK 0 0 0	1 0 0 0	0 0 0 0	2 0 0 0	-2 0 0 0	0 0 0 0	

test3_sim.txt	Page 32 of 32