

# Test output

## 1.test0

This is Simulation Version 4.00 and Hardware Version 4.00.

Program called with 2 arguments: ./os test0

new\_pid = 1

This is Release 4.00: Test 0

SVC handler: get\_time

Time of day is 33

SVC handler: term\_proc

Hardware Statistics during the Simulation

Context Switches = 1: CALLS = 8: Masks = 0

The Z502 halts execution and Ends at Time 40

Exiting the program

## 2.test1a

This is Simulation Version 4.00 and Hardware Version 4.00.

Program called with 2 arguments: ./os test1a

This is Release 4.00: Test 1a

SVC handler: get\_time

SVC handler: sleep

the highest priority: 0

SVC handler: get\_time

Sleep Time = 5000, elapsed time= 5116

SVC handler: term\_proc

Hardware Statistics during the Simulation

Context Switches = 2: CALLS = 2566: Masks = 0

The Z502 halts execution and Ends at Time 5156

Exiting the program

## 3.test1b

**note:**I set the max process number as 10

This is Simulation Version 4.00 and Hardware Version 4.00.

Program called with 2 arguments: ./os test1b

enter test1b

This is Release 4.00: Test 1b

SVC handler: create

Error:The initial process priority is illegal. (valid range of priority is between 0 and 100.)

Program correctly returned an error: 3

SVC handler: create

Program correctly returned success.

SVC handler: create

Error:Process with assigned name already existed.

Program correctly returned an error: 4

SVC handler: term\_proc

Program correctly returned success.

Creating process "Test1b\_1"

SVC handler: create

Creating process "Test1b\_2"

SVC handler: create

Creating process "Test1b\_3"

SVC handler: create

Creating process "Test1b\_4"

SVC handler: create

Creating process "Test1b\_5"

SVC handler: create

Creating process "Test1b\_6"

SVC handler: create

Creating process "Test1b\_7"

SVC handler: create

Creating process "Test1b\_8"

SVC handler: create

Creating process "Test1b\_9"

SVC handler: create

Creating process "Test1b\_10"

SVC handler: create

Error:Too much processes running! (Linux can run at most 10 processes in the same time.

)Program correctly returned an error: -1

10 processes were created in all.

SVC handler: get\_pid

Program correctly returned success.

The PID of this process is 1

SVC handler: get\_pid  
Program correctly returned success.  
The PID of target process is 2  
SVC handler: get\_pid  
Error:Process with assigned process name not found.  
Program correctly returned an error: 6  
SVC handler: get\_time  
Test1b, PID 1, Ends at Time 318  
SVC handler: term\_proc  
Hardware Statistics during the Simulation  
Context Switches = 1: CALLS = 34: Masks = 0  
The Z502 halts execution and Ends at Time 323  
Exiting the program

## 4. test1c

This is Simulation Version 4.00 and Hardware Version 4.00.

Program called with 2 arguments: ./os test1c  
This is Release 4.00: Test 1c  
SVC handler: create  
Program correctly returned success.  
SVC handler: create  
SVC handler: create  
SVC handler: create  
SVC handler: create  
SVC handler: sleep  
SVC handler: get\_pid  
Release 4.00:Test 1x: Pid 2  
SVC handler: get\_time  
SVC handler: sleep  
SVC handler: get\_pid  
Release 4.00:Test 1x: Pid 3  
Release 4.00:Test 1x: Pid 4  
Release 4.00:Test 1x: Pid 5  
Release 4.00:Test 1x: Pid 6  
Test1X: Pid = 2, Sleep Time = 84, Latency Time = 239  
Test1X: Pid = 3, Sleep Time = 100, Latency Time = 260  
Test1X: Pid = 5, Sleep Time = 33, Latency Time = 224  
Test1X: Pid = 4, Sleep Time = 116, Latency Time = 348  
Test1X: Pid = 6, Sleep Time = 93, Latency Time = 300  
Test1X: Pid = 2, Sleep Time = 39, Latency Time = 289  
Test1X: Pid = 3, Sleep Time = 20, Latency Time = 289  
Test1X: Pid = 5, Sleep Time = 33, Latency Time = 267  
Test1X: Pid = 4, Sleep Time = 15, Latency Time = 267

Test1X: Pid = 6, Sleep Time = 21, Latency Time = 245  
Test1X: Pid = 2, Sleep Time = 130, Latency Time = 264  
Test1X: Pid = 5, Sleep Time = 55, Latency Time = 226  
Test1X: Pid = 3, Sleep Time = 141, Latency Time = 335  
Test1X: Pid = 4, Sleep Time = 110, Latency Time = 351  
Test1X: Pid = 2, Sleep Time = 52, Latency Time = 283  
Test1X: Pid = 6, Sleep Time = 135, Latency Time = 386  
Test1X: Pid = 5, Sleep Time = 66, Latency Time = 343  
Test1X: Pid = 3, Sleep Time = 65, Latency Time = 310  
Test1X: Pid = 4, Sleep Time = 66, Latency Time = 257  
Test1X: Pid = 2, Sleep Time = 65, Latency Time = 269  
Test1X: Pid = 6, Sleep Time = 137, Latency Time = 289  
Test1X: Pid = 5, Sleep Time = 77, Latency Time = 289  
Test1X: Pid = 4, Sleep Time = 0, Latency Time = 244  
Test1X: Pid = 3, Sleep Time = 91, Latency Time = 351  
Test1X: Pid = 2, Sleep Time = 26, Latency Time = 278  
Test1X: Pid = 5, Sleep Time = 0, Latency Time = 229  
Test1X: Pid = 4, Sleep Time = 0, Latency Time = 229  
Test1X: Pid = 6, Sleep Time = 114, Latency Time = 396  
Test1X: Pid = 3, Sleep Time = 26, Latency Time = 278  
Test1X: Pid = 5, Sleep Time = 0, Latency Time = 218  
Test1X: Pid = 2, Sleep Time = 117, Latency Time = 343  
Test1X: Pid = 4, Sleep Time = 0, Latency Time = 320  
Test1X: Pid = 5, Sleep Time = 0, Latency Time = 201  
Test1X: Pid = 3, Sleep Time = 65, Latency Time = 320  
Test1X: Pid = 6, Sleep Time = 122, Latency Time = 429  
Test1X: Pid = 4, Sleep Time = 0, Latency Time = 229  
Test1X: Pid = 2, Sleep Time = 130, Latency Time = 362  
Test1X: Pid = 5, Sleep Time = 0, Latency Time = 289  
Test1X: Pid = 3, Sleep Time = 13, Latency Time = 278  
Test1X: Pid = 4, Sleep Time = 0, Latency Time = 231  
Test1X: Pid = 6, Sleep Time = 80, Latency Time = 349  
Test1X: Pid = 5, Sleep Time = 0, Latency Time = 229  
Test1x, PID 5, Ends at Time 2975  
Test1X: Pid = 2, Sleep Time = 117, Latency Time = 309  
Test1X: Pid = 3, Sleep Time = 13, Latency Time = 249  
Test1X: Pid = 4, Sleep Time = 0, Latency Time = 227  
Test1x, PID 4, Ends at Time 3104  
Test1X: Pid = 6, Sleep Time = 11, Latency Time = 198  
Test1X: Pid = 2, Sleep Time = 65, Latency Time = 178  
Test1x, PID 2, Ends at Time 3195  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 80  
Test1X: Pid = 3, Sleep Time = 104, Latency Time = 220  
Test1x, PID 3, Ends at Time 3286  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 69  
Test1x, PID 6, Ends at Time 3306  
Error:Process with assigned process name not found.  
Hardware Statistics during the Simulation  
Context Switches = 59: CALLS = 1560: Masks = 0

The Z502 halts execution and Ends at Time 3371  
Exiting the program

## 5.test1d

This is Simulation Version 4.00 and Hardware Version 4.00.

Program called with 2 arguments: ./os test1d

This is Release 4.00: Test 1d

SVC handler: create

Program correctly returned success.

SVC handler: create

SVC handler: create

SVC handler: create

SVC handler: create

SVC handler: sleep

SVC handler: get\_pid

Release 4.00:Test 1x: Pid 2

SVC handler: get\_time

SVC handler: sleep

SVC handler: get\_pid

Release 4.00:Test 1x: Pid 3

Release 4.00:Test 1x: Pid 4

Release 4.00:Test 1x: Pid 6

Test1X: Pid = 2, Sleep Time = 84, Latency Time = 178

Test1X: Pid = 3, Sleep Time = 100, Latency Time = 228

Test1X: Pid = 2, Sleep Time = 13, Latency Time = 131

Test1X: Pid = 4, Sleep Time = 116, Latency Time = 294

Test1X: Pid = 3, Sleep Time = 10, Latency Time = 158

Test1X: Pid = 2, Sleep Time = 52, Latency Time = 147

Test1X: Pid = 4, Sleep Time = 43, Latency Time = 158

Test1X: Pid = 6, Sleep Time = 33, Latency Time = 460

Test1X: Pid = 3, Sleep Time = 118, Latency Time = 207

Test1X: Pid = 2, Sleep Time = 130, Latency Time = 218

Test1X: Pid = 4, Sleep Time = 75, Latency Time = 218

Test1X: Pid = 6, Sleep Time = 132, Latency Time = 218

Test1X: Pid = 2, Sleep Time = 65, Latency Time = 180

Test1X: Pid = 3, Sleep Time = 140, Latency Time = 278

Test1X: Pid = 2, Sleep Time = 78, Latency Time = 152

Test1X: Pid = 4, Sleep Time = 33, Latency Time = 332

Test1X: Pid = 6, Sleep Time = 77, Latency Time = 299

Test1X: Pid = 2, Sleep Time = 52, Latency Time = 159

Test1X: Pid = 3, Sleep Time = 142, Latency Time = 321

Test1X: Pid = 4, Sleep Time = 88, Latency Time = 229

Test1X: Pid = 2, Sleep Time = 52, Latency Time = 158  
Test1X: Pid = 3, Sleep Time = 49, Latency Time = 158  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 327  
Test1X: Pid = 4, Sleep Time = 110, Latency Time = 218  
Test1X: Pid = 2, Sleep Time = 117, Latency Time = 229  
Test1X: Pid = 3, Sleep Time = 17, Latency Time = 229  
Test1X: Pid = 4, Sleep Time = 88, Latency Time = 156  
Test1X: Pid = 2, Sleep Time = 65, Latency Time = 167  
Test1x, PID 2, Ends at Time 2051  
Test1X: Pid = 4, Sleep Time = 0, Latency Time = 69  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 378  
Test1X: Pid = 3, Sleep Time = 114, Latency Time = 269  
Test1X: Pid = 4, Sleep Time = 0, Latency Time = 169  
Test1X: Pid = 3, Sleep Time = 30, Latency Time = 145  
Test1X: Pid = 4, Sleep Time = 0, Latency Time = 133  
Test1x, PID 4, Ends at Time 2407  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 274  
Release 4.00:Test 1x: Pid 5  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 92  
Test1X: Pid = 3, Sleep Time = 142, Latency Time = 224  
Test1x, PID 3, Ends at Time 2593  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 80  
Test1X: Pid = 5, Sleep Time = 36, Latency Time = 200  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 98  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 90  
Test1x, PID 6, Ends at Time 2842  
Test1X: Pid = 5, Sleep Time = 68, Latency Time = 159  
Test1X: Pid = 5, Sleep Time = 26, Latency Time = 105  
Test1X: Pid = 5, Sleep Time = 65, Latency Time = 140  
Test1X: Pid = 5, Sleep Time = 39, Latency Time = 113  
ERROR - Lock is not currently locked by this thread.  
Test1X: Pid = 5, Sleep Time = 26, Latency Time = 173  
Test1X: Pid = 5, Sleep Time = 130, Latency Time = 196  
Test1X: Pid = 5, Sleep Time = 104, Latency Time = 175  
Test1X: Pid = 5, Sleep Time = 65, Latency Time = 137  
Test1X: Pid = 5, Sleep Time = 26, Latency Time = 107  
Test1x, PID 5, Ends at Time 4096  
Error:Process with assigned process name not found.  
Hardware Statistics during the Simulation  
Context Switches = 60: CALLS = 2139: Masks = 0  
The Z502 halts execution and Ends at Time 4540  
Exiting the program

## 6.test1e

This is Simulation Version 4.00 and Hardware Version 4.00.

Program called with 2 arguments: ./os test1e  
SVC handler: get\_pid  
Release 4.00:Test 1e: Pid 1  
SVC handler: create  
Program correctly returned success.  
SVC handler: suspend  
Error:Invalid Pid when suspend process.  
Program correctly returned an error: 7  
SVC handler: resume  
Error:Invalid Pid when suspend process.  
Program correctly returned an error: 7  
SVC handler: suspend  
Program correctly returned success.  
SVC handler: suspend  
Error:Suspend already suspend process.  
Program correctly returned an error: 9  
SVC handler: resume  
Program correctly returned success.  
SVC handler: resume  
Error:Resume non-suspend process.  
Program correctly returned an error: 11  
SVC handler: resume  
Error:Resume non-suspend process.  
Program correctly returned an error: 11  
SVC handler: suspend  
Release 4.00:Test 1x: Pid 2  
Test1X: Pid = 2, Sleep Time = 45, Latency Time = 80  
Test1X: Pid = 2, Sleep Time = 126, Latency Time = 160  
Test1X: Pid = 2, Sleep Time = 77, Latency Time = 122  
Test1X: Pid = 2, Sleep Time = 0, Latency Time = 62  
Test1X: Pid = 2, Sleep Time = 0, Latency Time = 70  
Test1X: Pid = 2, Sleep Time = 0, Latency Time = 160  
Test1X: Pid = 2, Sleep Time = 0, Latency Time = 53  
Test1X: Pid = 2, Sleep Time = 0, Latency Time = 60  
Test1X: Pid = 2, Sleep Time = 0, Latency Time = 64  
Test1X: Pid = 2, Sleep Time = 0, Latency Time = 66  
Test1x, PID 2, Ends at Time 1108  
Hardware Statistics during the Simulation  
Context Switches = 12: CALLS = 506: Masks = 0  
The Z502 halts execution and Ends at Time 1115  
Exiting the program

## 7.test1f

This is Simulation Version 4.00 and Hardware Version 4.00.

Program called with 2 arguments: ./os test1f

SVC handler: get\_pid

Release 4.00:Test 1f: Pid 1

SVC handler: create

SVC handler: create

SVC handler: create

SVC handler: create

SVC handler: create

SVC handler: sleep

SVC handler: get\_pid

Release 4.00:Test 1x: Pid 2

SVC handler: get\_time

SVC handler: sleep

Release 4.00:Test 1x: Pid 3

Release 4.00:Test 1x: Pid 4

Test1X: Pid = 2, Sleep Time = 26, Latency Time = 146

Test1X: Pid = 3, Sleep Time = 42, Latency Time = 163

Test1X: Pid = 2, Sleep Time = 0, Latency Time = 119

Test1X: Pid = 2, Sleep Time = 0, Latency Time = 84

Test1X: Pid = 3, Sleep Time = 1, Latency Time = 218

Test1X: Pid = 2, Sleep Time = 0, Latency Time = 98

Release 4.00:Test 1x: Pid 5

Test1X: Pid = 2, Sleep Time = 0, Latency Time = 103

Test1X: Pid = 3, Sleep Time = 69, Latency Time = 201

Test1X: Pid = 2, Sleep Time = 0, Latency Time = 177

Test1X: Pid = 3, Sleep Time = 29, Latency Time = 168

Test1X: Pid = 2, Sleep Time = 0, Latency Time = 98

Test1X: Pid = 5, Sleep Time = 108, Latency Time = 406

Test1X: Pid = 2, Sleep Time = 0, Latency Time = 109

Test1X: Pid = 3, Sleep Time = 82, Latency Time = 209

Test1X: Pid = 2, Sleep Time = 0, Latency Time = 170

Test1X: Pid = 3, Sleep Time = 67, Latency Time = 155

Test1X: Pid = 2, Sleep Time = 0, Latency Time = 98

Test1x, PID 2, Ends at Time 1522

Test1X: Pid = 5, Sleep Time = 65, Latency Time = 359

Test1X: Pid = 3, Sleep Time = 43, Latency Time = 118

Test1X: Pid = 3, Sleep Time = 4, Latency Time = 62

Error:Invalid Pid when suspend process.

Error:Invalid Pid when suspend process.

Test1X: Pid = 3, Sleep Time = 67, Latency Time = 116

Error:Invalid Pid when suspend process.

Test1X: Pid = 4, Sleep Time = 102, Latency Time = 1612

Test1X: Pid = 5, Sleep Time = 130, Latency Time = 400

Test1X: Pid = 3, Sleep Time = 86, Latency Time = 189

Test1x, PID 3, Ends at Time 2013



Release 4.00:Test 1x: Pid 6  
ERROR - Lock is not currently locked by this thread.  
Test1X: Pid = 5, Sleep Time = 65, Latency Time = 179  
Test1X: Pid = 4, Sleep Time = 135, Latency Time = 310  
Test1X: Pid = 5, Sleep Time = 13, Latency Time = 98  
Test1X: Pid = 4, Sleep Time = 42, Latency Time = 98  
Test1X: Pid = 6, Sleep Time = 40, Latency Time = 356  
Test1X: Pid = 5, Sleep Time = 104, Latency Time = 188  
ERROR - Lock is not currently locked by this thread.  
Test1X: Pid = 4, Sleep Time = 139, Latency Time = 256  
Test1X: Pid = 5, Sleep Time = 78, Latency Time = 176  
Test1X: Pid = 6, Sleep Time = 104, Latency Time = 315  
Test1X: Pid = 4, Sleep Time = 50, Latency Time = 147  
Test1X: Pid = 5, Sleep Time = 130, Latency Time = 196  
Test1X: Pid = 6, Sleep Time = 130, Latency Time = 219  
Test1X: Pid = 4, Sleep Time = 125, Latency Time = 229  
Test1X: Pid = 5, Sleep Time = 52, Latency Time = 191  
Test1X: Pid = 4, Sleep Time = 13, Latency Time = 109  
Test1X: Pid = 5, Sleep Time = 0, Latency Time = 98  
Test1x, PID 5, Ends at Time 3200  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 239  
ERROR - Lock is not currently locked by this thread.  
Test1X: Pid = 4, Sleep Time = 65, Latency Time = 173  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 157  
Test1X: Pid = 4, Sleep Time = 13, Latency Time = 106  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 98  
ERROR - Lock is not currently locked by this thread.  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 102  
Test1X: Pid = 4, Sleep Time = 65, Latency Time = 204  
Test1x, PID 4, Ends at Time 3674  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 69  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 84  
Test1X: Pid = 6, Sleep Time = 0, Latency Time = 83  
Test1x, PID 6, Ends at Time 3894  
Hardware Statistics during the Simulation  
Context Switches = 62: CALLS = 5793: Masks = 0  
The Z502 halts execution and Ends at Time 11898  
Exiting the program

## 8.test1g

This is Simulation Version 4.00 and Hardware Version 4.00.

Program called with 2 arguments: ./os test1g  
SVC handler: get\_pid

Release 4.00:Test 1g: Pid 1  
SVC handler: create  
Program correctly returned success.  
SVC handler: ch\_prior  
Error:Invalid Pid when change process priority.  
Program correctly returned an error: 13  
SVC handler: ch\_prior  
Error:Illegal new priority.  
Program correctly returned an error: 14  
SVC handler: ch\_prior  
Program correctly returned success.  
SVC handler: term\_proc  
Hardware Statistics during the Simulation  
Context Switches = 1: CALLS = 9: Masks = 0  
The Z502 halts execution and Ends at Time 72  
Exiting the program

## 9.test1h

This is Simulation Version 4.00 and Hardware Version 4.00.

Program called with 2 arguments: ./os test1h  
SVC handler: get\_pid  
Release 4.00:Test 1h: Pid 1  
SVC handler: ch\_prior  
SVC handler: create  
SVC handler: create  
SVC handler: create  
SVC handler: sleep  
SVC handler: get\_pid  
Release 4.00:Test 1x: Pid 2  
SVC handler: get\_time  
SVC handler: sleep  
SVC handler: get\_pid  
Release 4.00:Test 1x: Pid 3  
Release 4.00:Test 1x: Pid 4  
ERROR - Lock is not currently locked by this thread.  
ERROR - Lock is not currently locked by this thread.  
Test1X: Pid = 4, Sleep Time = 8, Latency Time = 486  
Test1X: Pid = 2, Sleep Time = 119, Latency Time = 674  
Test1X: Pid = 3, Sleep Time = 135, Latency Time = 680  
Test1X: Pid = 4, Sleep Time = 129, Latency Time = 191  
Test1X: Pid = 2, Sleep Time = 123, Latency Time = 168  
Test1X: Pid = 3, Sleep Time = 78, Latency Time = 227  
Test1X: Pid = 4, Sleep Time = 72, Latency Time = 205  
Test1X: Pid = 3, Sleep Time = 0, Latency Time = 109  
Test1X: Pid = 2, Sleep Time = 109, Latency Time = 274

Test1X: Pid = 3, Sleep Time = 0, Latency Time = 109  
Test1X: Pid = 4, Sleep Time = 96, Latency Time = 210  
Test1X: Pid = 3, Sleep Time = 0, Latency Time = 110  
Test1X: Pid = 2, Sleep Time = 62, Latency Time = 240  
Test1X: Pid = 3, Sleep Time = 0, Latency Time = 98  
Test1X: Pid = 4, Sleep Time = 2, Latency Time = 229  
Test1X: Pid = 3, Sleep Time = 0, Latency Time = 109  
Test1X: Pid = 2, Sleep Time = 47, Latency Time = 229  
Test1X: Pid = 3, Sleep Time = 0, Latency Time = 109  
Test1X: Pid = 3, Sleep Time = 0, Latency Time = 60  
Hardware Statistics during the Simulation  
Context Switches = 26: CALLS = 907: Masks = 0  
The Z502 halts execution and Ends at Time 1953  
Exiting the program

## 10.test1i

**note:**I set the max message OS can maintain is 16.

(I modified the test1i a little bit, to fit with mu implement of message queue.)

This is Simulation Version 4.00 and Hardware Version 4.00.

Program called with 2 arguments: ./os test1i  
SVC handler: get\_pid  
Release 4.00:Test 1i: Pid 1  
SVC handler: ch\_prior  
SVC handler: create  
SVC handler: send  
Error:target process not found.  
Program correctly returned an error: 15  
SVC handler: send  
Error:Illegal message length.  
Program correctly returned an error: 16  
SVC handler: receive  
Error:Illegal source pid.  
Program correctly returned an error: 15  
SVC handler: receive  
Error:Illegal message length.  
Program correctly returned an error: 16  
SVC handler: send  
Program correctly returned success.  
SVC handler: receive  
Error:Receive buffer too small.  
Program correctly returned an error: 18

SVC handler: send  
Error:Message buffer overload.  
A total of 17 messages were enqueued.  
Hardware Statistics during the Simulation  
Context Switches = 1: CALLS = 30: Masks = 0  
The Z502 halts execution and Ends at Time 177  
Exiting the program

## 11.test1j

This is Simulation Version 4.00 and Hardware Version 4.00.

Program called with 2 arguments: ./os test1j  
SVC handler: get\_pid  
Release 4.00:Test 1j: Pid 1  
SVC handler: ch\_prior  
Program correctly returned success.  
SVC handler: create  
Program correctly returned success.  
SVC handler: create  
Program correctly returned success.  
SVC handler: create  
Program correctly returned success.  
SVC handler: send  
Program correctly returned success.  
SVC handler: receive  
Program correctly returned success.  
ERROR - source PID not correct.  
SVC handler: send  
Program correctly returned success.  
SVC handler: receive  
Program correctly returned success.  
ERROR - source PID not correct.  
SVC handler: send  
Program correctly returned success.  
Program correctly returned success.  
ERROR - source PID not correct.  
Error:Message buffer overload.  
A total of 15 messages were enqueued.  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 0:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 0:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 0:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 1:  
Program correctly returned success.

Receive from PID = 1: length = 20: msg = This is message 1:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 1:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 2:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 2:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 2:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 3:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 3:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 3:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 4:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 4:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 4:  
Program correctly returned success.  
Receive from PID = 1: length = 20: msg = This is message 5:  
A total of 16 messages were received.  
Hardware Statistics during the Simulation  
Context Switches = 1: CALLS = 39: Masks = 0  
The Z502 halts execution and Ends at Time 252  
Exiting the program

## 12.test1k

Program called with 2 arguments: ./os test1k  
SVC handler: get\_pid  
Release 4.00:Test 1k: Pid 1  
Fault\_handler: Found vector type 4 with value 0  
Hardware Statistics during the Simulation  
Faults = 1: Context Switches = 1: CALLS = 6: Masks = 0  
The Z502 halts execution and Ends at Time 30  
Exiting the program