

NAMA : SALMAA KHOIRUN NISAA'

NIM : L200180019

MODUL 3

```
C:\WINDOWS\system32\cmd.exe
C:\OS\LAB>cd lab3
C:\OS\LAB\LAB3>s
C:\OS\LAB\LAB3>.\..\bochs-2.3.5\bochsrc -q -f bochsrc.bxrc
0000000000i[APIC?] local apic in initializing
=====
Bochs x86 Emulator 2.3.5
Build from CVS snapshot, on September 16, 2007
=====
0000000000i[      ] reading configuration from bochsrc.bxrc
0000000000i[      ] installing win32 module as the Bochs GUI
0000000000i[      ] using log file bochs.log
Next at t=0
(0) [0xfffffff0] f000:fff0 (unk. ctxt): jmp far f000:e05b      ; ea5be00f0
<bochs:1> r
rax: 0x00000000:00000000 rcx: 0x00000000:00000000
rdx: 0x00000000:00000f20 rbx: 0x00000000:00000000
rsp: 0x00000000:00000000 rbp: 0x00000000:00000000
rsi: 0x00000000:00000000 rdi: 0x00000000:00000000
r8 : 0x00000000:00000000 r9 : 0x00000000:00000000
r10: 0x00000000:00000000 r11: 0x00000000:00000000
r12: 0x00000000:00000000 r13: 0x00000000:00000000
r14: 0x00000000:00000000 r15: 0x00000000:00000000
rip: 0x00000000:0000fff0
eflags 0x00000002
IOPL=0 id vip vif ac vm rf nt of df if tf sf zf af pf cf
<bochs:2> s
Next at t=1
(0) [0x000fe05b] f000:e05b (unk. ctxt): xor ax, ax          ; 31c0
<bochs:3> r
rax: 0x00000000:00000000 rcx: 0x00000000:00000000
rdx: 0x00000000:00000f20 rbx: 0x00000000:00000000
rsp: 0x00000000:00000000 rbp: 0x00000000:00000000
rsi: 0x00000000:00000000 rdi: 0x00000000:00000000
r8 : 0x00000000:00000000 r9 : 0x00000000:00000000
r10: 0x00000000:00000000 r11: 0x00000000:00000000
r12: 0x00000000:00000000 r13: 0x00000000:00000000
r14: 0x00000000:00000000 r15: 0x00000000:00000000
rip: 0x00000000:0000e05b
eflags 0x00000002
IOPL=0 id vip vif ac vm rf nt of df if tf sf zf af pf cf
<bochs:4> vb 0:0x7c00
<bochs:5> c
```

Activate Windows
Go to Settings to activate Windows.

11:25 AM
10/11/2019

```
C:\WINDOWS\system32\cmd.exe
C:\OS\LAB>cd lab3
C:\OS\LAB\LAB3>s
C:\OS\LAB\LAB3>..\..\bochs-2.3.5\bochsdbg -q -f bochsrc.bxrc
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(0) [0xffffffff] f000:fff0 (unk. ctxt): jmp far f000:e05b      ; ea5be00f0
<bochs:1> r
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IOPL=0 id vip vif ac vm rf nt of df if tf sf zf af pf cf
<bochs:4> vb 0:0x7c00
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<bochs:4> vb 0:0x7c00
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```
C:\WINDOWS\system32\cmd.exe
r12: 0x00000000:00000000 r13: 0x00000000:00000000
r14: 0x00000000:00000000 r15: 0x00000000:00000000
rip: 0x00000000:000e05b
eflags 0x00000002
IOPL=0 id vip vif ac vm rf nt of df if tf sf zf af pf cf
<bochs:4> vb 0:0x7c00
<bochs:5> c
=====
Bochs is exiting with the following message:
[WGUI ] POWER button turned off.
=====
# In bx_win32_gui_c::exit(void)!

C:\OS\LAB\LAB3>s

C:\OS\LAB\LAB3>..\bochs-2.3.5\bochsrc -q -f bochsrc.bxrc
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(0) [0xfffffff0] f000:fff0 (unk. ctxt): jmp far f000:e05b      ; ea5be00f0
<bochs:1> r
rax: 0x00000000:00000000 rcx: 0x00000000:00000000
rdx: 0x00000000:0000f20 rbx: 0x00000000:00000000
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rsi: 0x00000000:00000000 rdi: 0x00000000:00000000
r8 : 0x00000000:00000000 r9 : 0x00000000:00000000
r10: 0x00000000:00000000 r11: 0x00000000:00000000
r12: 0x00000000:00000000 r13: 0x00000000:00000000
r14: 0x00000000:00000000 r15: 0x00000000:00000000
rip: 0x00000000:0000fff0
eflags 0x00000002
IOPL=0 id vip vif ac vm rf nt of df if tf sf zf af pf cf
<bochs:2> s
Next at t=1
(0) [0x000fe05b] f000:e05b (unk. ctxt): xor ax, ax            ; 31c0
<bochs:3> s
Next at t=2
(0) [0x000fe05d] f000:e05d (unk. ctxt): out 0x0d, al          ; e60d
=====
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```

```
C:\WINDOWS\system32\cmd.exe
r1: 0x00000000:00000000 rdi: 0x00000000:00000000
r8 : 0x00000000:00000000 r9 : 0x00000000:00000000
r10: 0x00000000:00000000 r11: 0x00000000:00000000
r12: 0x00000000:00000000 r13: 0x00000000:00000000
r14: 0x00000000:00000000 r15: 0x00000000:00000000
rip: 0x00000000:0000fff0
eflags 0x00000002
IOPL=0 id vip vif ac vm rf nt of df if tf sf zf af pf cf
<bochs:2> s
Next at t=1
(0) [0x000fe05b] f000:e05b (unk. ctxt): xor ax, ax            ; 31c0
<bochs:3> s
Next at t=2
(0) [0x000fe05d] f000:e05d (unk. ctxt): out 0x0d, al          ; e60d
<bochs:4> s
Next at t=3
(0) [0x000fe05f] f000:e05f (unk. ctxt): out 0xda, al           ; e6da
<bochs:5> s
Next at t=4
(0) [0x000fe061] f000:e061 (unk. ctxt): mov al, 0xc0           ; b0c0
<bochs:6> s
Next at t=5
(0) [0x000fe063] f000:e063 (unk. ctxt): out 0xd6, al           ; e6d6
<bochs:7> s
Next at t=6
(0) [0x000fe065] f000:e065 (unk. ctxt): mov al, 0x00           ; b000
<bochs:8> h
h|help - show list of debugger commands
h|help command - show short command description
--*- Debugger control --*-
help, q|quit|exit, set, instrument, show, trace, trace-reg,
record, playback, load-symbols, slist
--*- Execution control --*-
c|cont|continue, s|step|stepi, p|n|next, modebp
--*- Breakpoint management --*-
vb|vbreak, lb|lbreak, pb|pbreak|b|break, sb, sba, blist,
bpe, bpd, d|del|delete
--*- CPU and memory contents --*-
x, xp, u|disasm|disassemble, r|reg|regs|registers, setpmem, crc, info,
set, dump_cpu, set_cpu, ptime, print-stack, watch, unwatch, ?|calc
<bochs:9> s
Next at t=7
(0) [0x000fe067] f000:e067 (unk. ctxt): out 0xd4, al          ; e6d4
<bochs:10> s
=====
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```

```
C:\WINDOWS\system32\cmd.exe
<bochs:6> s
Next at t=5
(0) [0x000fe063] f000:e063 (unk. ctxt): out 0xd6, al          ; e6d6
<bochs:7> s
Next at t=6
(0) [0x000fe065] f000:e065 (unk. ctxt): mov al, 0x00          ; b000
<bochs:8> h
h|help - show list of debugger commands
h|help command - show short command description
*- Debugger control *-
  help, q|quit|exit, set, instrument, show, trace, trace-reg,
  record, playback, load-symbols, slist
*- Execution control *-
  c|cont|continue, s|step|stepi, p|n|next, modebp
*- Breakpoint management *-
  vb|vbreak, lb|lbreak, pb|pbreak|b|break, sb, sba, blist,
  bpe, bpd, d|del|delete
*- CPU and memory contents *-
  x, xp, u|disasm|disassemble, r|reg|regs|registers, setpmem, crc, info,
  set, dump_cpu, set_cpu, ptime, print-stack, watch, unwatch, ?|calc
<bochs:9> s
Next at t=7
(0) [0x000fe067] f000:e067 (unk. ctxt): out 0xd4, al          ; e6d4
<bochs:10> s
Next at t=8
(0) [0x000fe069] f000:e069 (unk. ctxt): mov al, 0x0f          ; b00f
<bochs:11> s
Next at t=9
(0) [0x000fe06b] f000:e06b (unk. ctxt): out 0x70, al          ; e670
<bochs:12> q
# In bx_win32_gui_c::exit(void)!

Bochs is exiting. Press ENTER when you're ready to close this window.

C:\OS\LAB\LAB3>s
C:\OS\LAB\LAB3>..\..\bochs-2.3.5\bochsdbg -q -f bochsrc.bxrc
0000000000i[APIC?] local apic in initializing
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```

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```
C:\WINDOWS\system32\cmd.exe
<bochs:11> s
Next at t=9
(0) [0x000fe06b] f000:e06b (unk. ctxt): out 0x70, al          ; e670
<bochs:12> q
# In bx_win32_gui_c::exit(void)!

Bochs is exiting. Press ENTER when you're ready to close this window.

C:\OS\LAB\LAB3>s
C:\OS\LAB\LAB3>..\..\bochs-2.3.5\bochsdbg -q -f bochsrc.bxrc
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0000000000i[      ] installing win32 module as the Bochs GUI
0000000000i[      ] using log file bochs.log
Next at t=0
(0) [0xffffffff] f000:ffff (unk. ctxt): jmp far f000:e05b      ; ea5be00f0
<bochs:1> vb 0x0100:0x0000
<bochs:2> c
(10264512) Breakpoint 10285608, in 0100:0000 (0x00001000)
Next at t=2945013
(0) [0x00001000] 0100:0000 (unk. ctxt): mov ax, 0x0100        ; b80001
<bochs:3> s
Next at t=2945014
(0) [0x00001003] 0100:0003 (unk. ctxt): mov ds, ax            ; 8ed8
<bochs:4> s
Next at t=2945015
(0) [0x00001005] 0100:0005 (unk. ctxt): mov es, ax            ; 8ec0
<bochs:5> s
Next at t=2945016
(0) [0x00001007] 0100:0007 (unk. ctxt): cli                    ; fa
<bochs:6> s
Next at t=2945017
(0) [0x00001008] 0100:0008 (unk. ctxt): mov ss, ax            ; 8ed0
<bochs:7> s
Next at t=2945018
(0) [0x0000100a] 0100:000a (unk. ctxt): mov sp, 0xffff         ; bcffff
<bochs:8> s
Next at t=2945019
```

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```
C:\WINDOWS\system32\cmd.exe
(0) [0xffffffff] f000:ffff (unk. ctxt): jmp far f000:e05b ; ea5be00f0
<bochs:1> vb 0x0100:0x0000
<bochs:2> c
(10264512) Breakpoint 10285608, in 0100:0000 (0x00001000)
Next at t=2945013
(0) [0x00001000] 0100:0000 (unk. ctxt): mov ax, 0x0100 ; b80001
<bochs:3> s
Next at t=2945014
(0) [0x00001003] 0100:0003 (unk. ctxt): mov ds, ax ; 8ed8
<bochs:4> s
Next at t=2945015
(0) [0x00001005] 0100:0005 (unk. ctxt): mov es, ax ; 8ec0
<bochs:5> s
Next at t=2945016
(0) [0x00001007] 0100:0007 (unk. ctxt): cli ; fa
<bochs:6> s
Next at t=2945017
(0) [0x00001008] 0100:0008 (unk. ctxt): mov ss, ax ; 8ed0
<bochs:7> s
Next at t=2945018
(0) [0x0000100a] 0100:000a (unk. ctxt): mov sp, 0xffff ; bcffff
<bochs:8> s
Next at t=2945019
(0) [0x0000100d] 0100:000d (unk. ctxt): sti ; fb
<bochs:9> s
Next at t=2945020
(0) [0x0000100e] 0100:000e (unk. ctxt): push dx ; 52
<bochs:10> s
Next at t=2945021
(0) [0x0000100f] 0100:000f (unk. ctxt): push es ; 06
<bochs:11> s
Next at t=2945022
(0) [0x00001010] 0100:0010 (unk. ctxt): xor ax, ax ; 31c0
<bochs:12> s
Next at t=2945023
(0) [0x00001012] 0100:0012 (unk. ctxt): mov es, ax ; 8ec0
<bochs:13>
Next at t=2945024
(0) [0x00001014] 0100:0014 (unk. ctxt): cli ; fa
<bochs:14>
Next at t=2945025
(0) [0x00001015] 0100:0015 (unk. ctxt): mov word ptr es:0x84, 0x0030 ; 26c70684003000
<bochs:15>
Next at t=2945026
```

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```
C:\WINDOWS\system32\cmd.exe
(0) [0x0000100e] 0100:000e (unk. ctxt): push dx ; 52
<bochs:10> s
Next at t=2945021
(0) [0x0000100f] 0100:000f (unk. ctxt): push es ; 06
<bochs:11> s
Next at t=2945022
(0) [0x00001010] 0100:0010 (unk. ctxt): xor ax, ax ; 31c0
<bochs:12> s
Next at t=2945023
(0) [0x00001012] 0100:0012 (unk. ctxt): mov es, ax ; 8ec0
<bochs:13>
Next at t=2945024
(0) [0x00001014] 0100:0014 (unk. ctxt): cli ; fa
<bochs:14>
Next at t=2945025
(0) [0x00001015] 0100:0015 (unk. ctxt): mov word ptr es:0x84, 0x0030 ; 26c70684003000
<bochs:15>
Next at t=2945026
(0) [0x0000101c] 0100:001c (unk. ctxt): mov word ptr es:0x86, cs ; 268c0e8600
<bochs:16>
Next at t=2945027
(0) [0x00001021] 0100:0021 (unk. ctxt): sti ; fb
<bochs:17>
Next at t=2945028
(0) [0x00001022] 0100:0022 (unk. ctxt): pop es ; 07
<bochs:18>
Next at t=2945029
(0) [0x00001023] 0100:0023 (unk. ctxt): pop dx ; 5a
<bochs:19>
Next at t=2945030
(0) [0x00001024] 0100:0024 (unk. ctxt): mov si, 0x01e8 ; bee801
<bochs:20>
Next at t=2945031
(0) [0x00001027] 0100:0027 (unk. ctxt): mov al, 0x01 ; b001
<bochs:21> s
Next at t=2945032
(0) [0x00001029] 0100:0029 (unk. ctxt): int 0x21 ; cd21
<bochs:22> q
# In bx_win32_gui_c::exit(void)!

Bochs is exiting. Press ENTER when you're ready to close this window.
```

Activate Windows
Go to Settings to activate Windows.

C:\OS\LAB\LAB3>cd lab2_