

# LAPORAN PRAKTIKUM SISTEM OPERASI

## MODUL 2

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1. ketik perintah 'cd os' untuk masuk ke OS nya.

```
Microsoft Windows [Version 10.0.15063]
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C:\Users\LENOVO A9>cd c:/

c:\>cd os
```

2. jalankan 'setpath', setelah itu pindah ke LAB 2 dengan mengetikan 'cd lab/lab2'.

```
c:\OS>setpath

c:\OS>Path=C:\OS\Dev-Cpp\bin;C:\OS\Bochs-2.3.5;c:\OS\Perl;C:\Windows;C:\Windows\System32
c:\OS>cd lab/lab2
```

3. lalu ketikan 'dir' untuk melihat isi direktori kerja, dan akan tampak seperti gambar berikut.

```
c:\OS\LAB\LAB2>dir
Volume in drive C is rio
Volume Serial Number is C8BC-A4E1

Directory of c:\OS\LAB\LAB2

20/09/2018  19:01    <DIR>          .
20/09/2018  19:01    <DIR>          ..
20/09/2018  19:01         1.474.560 a.img
19/09/2018  12:00          10.130 bochs.log
16/12/2008  00:18           1.625 bochsrc.bxrc
19/09/2018  12:08          15.922 boot.asm
16/09/2007  23:22          18.432 bximage.exe
27/02/2007  04:50          342.016 dd.exe
15/12/2008  21:52              78 dosfp.bat
19/09/2018  11:45         1.474.560 floppya.img
19/09/2018  12:09           7.966 kernel.asm
16/12/2008  00:21           228 Makefile
15/12/2008  20:20           44 s.bat
                11 File(s)        3.345.561 bytes
                2 Dir(s)    133.107.732.480 bytes free
```

4. selanjutnya jalankan 'bximage', dan diteruskan dengan menjawab pertanyaan-pertanyaan yang akan muncul setelah menjalankan bximage.

```
c:\OS\LAB\LAB2>bximage
=====
                        bximage
          Disk Image Creation Tool for Bochs
          $Id: bximage.c,v 1.32 2006/06/16 07:29:33 vruppert Exp $
=====

Do you want to create a floppy disk image or a hard disk image?
Please type hd or fd. [hd] fd

Choose the size of floppy disk image to create, in megabytes.
Please type 0.16, 0.18, 0.32, 0.36, 0.72, 1.2, 1.44, 1.68, 1.72, or 2.88.
[1.44]
I will create a floppy image with
  cyl=80
  heads=2
  sectors per track=18
  total sectors=2880
  total bytes=1474560

What should I name the image?
[a.img] floppy.a.img

The disk image 'floppya.img' already exists.  Are you sure you want to replace it?
Please type yes or no. [no] y

Writing: [] Done.

I wrote 1474560 bytes to floppya.img.
```

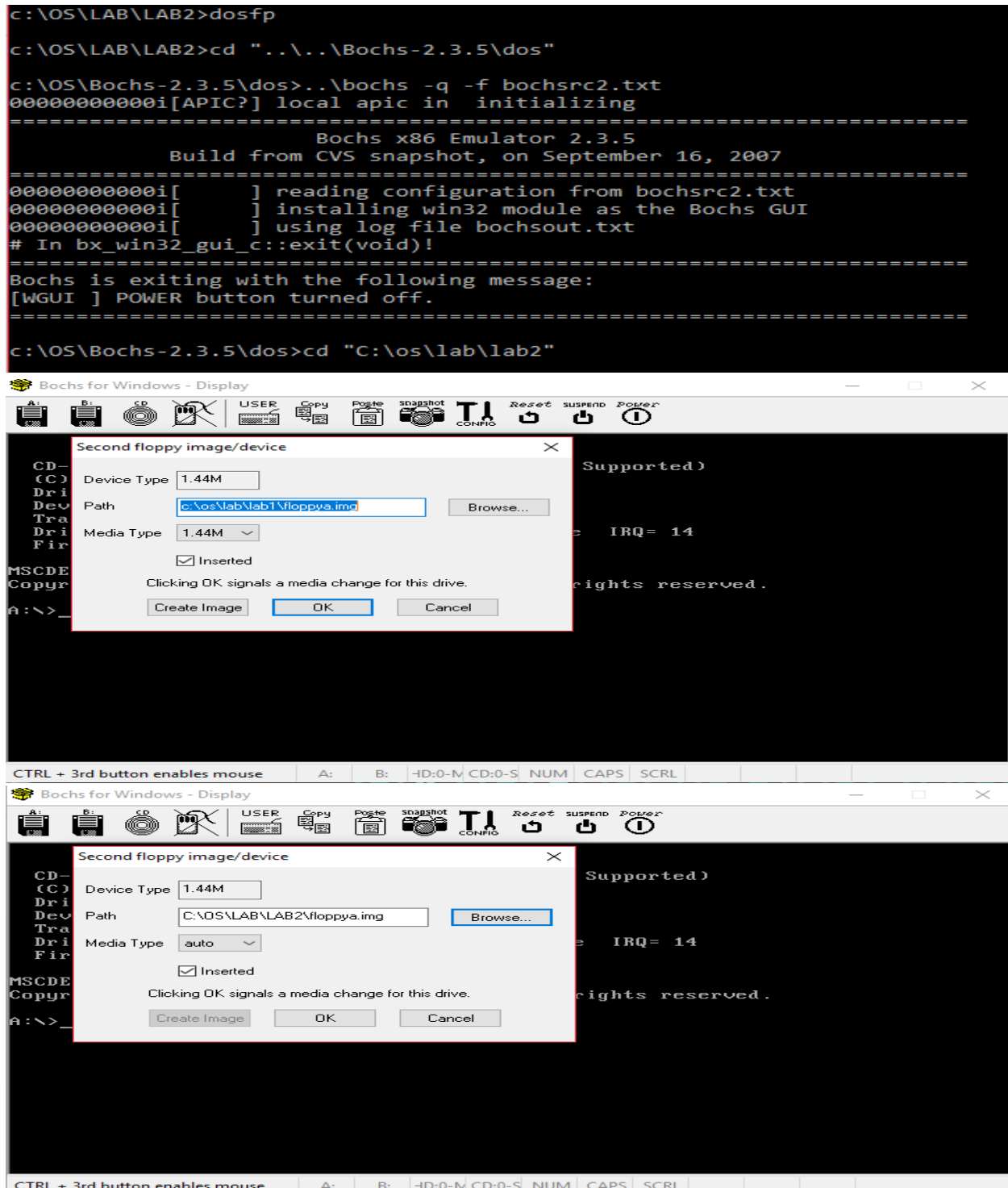
5. pastikan hasil file 'floppya.img' dengan memasukan perintah 'dir', hasilnya seperti gambar dibawah.

```
c:\OS\LAB\LAB2>dir
Volume in drive C is rio
Volume Serial Number is C8BC-A4E1

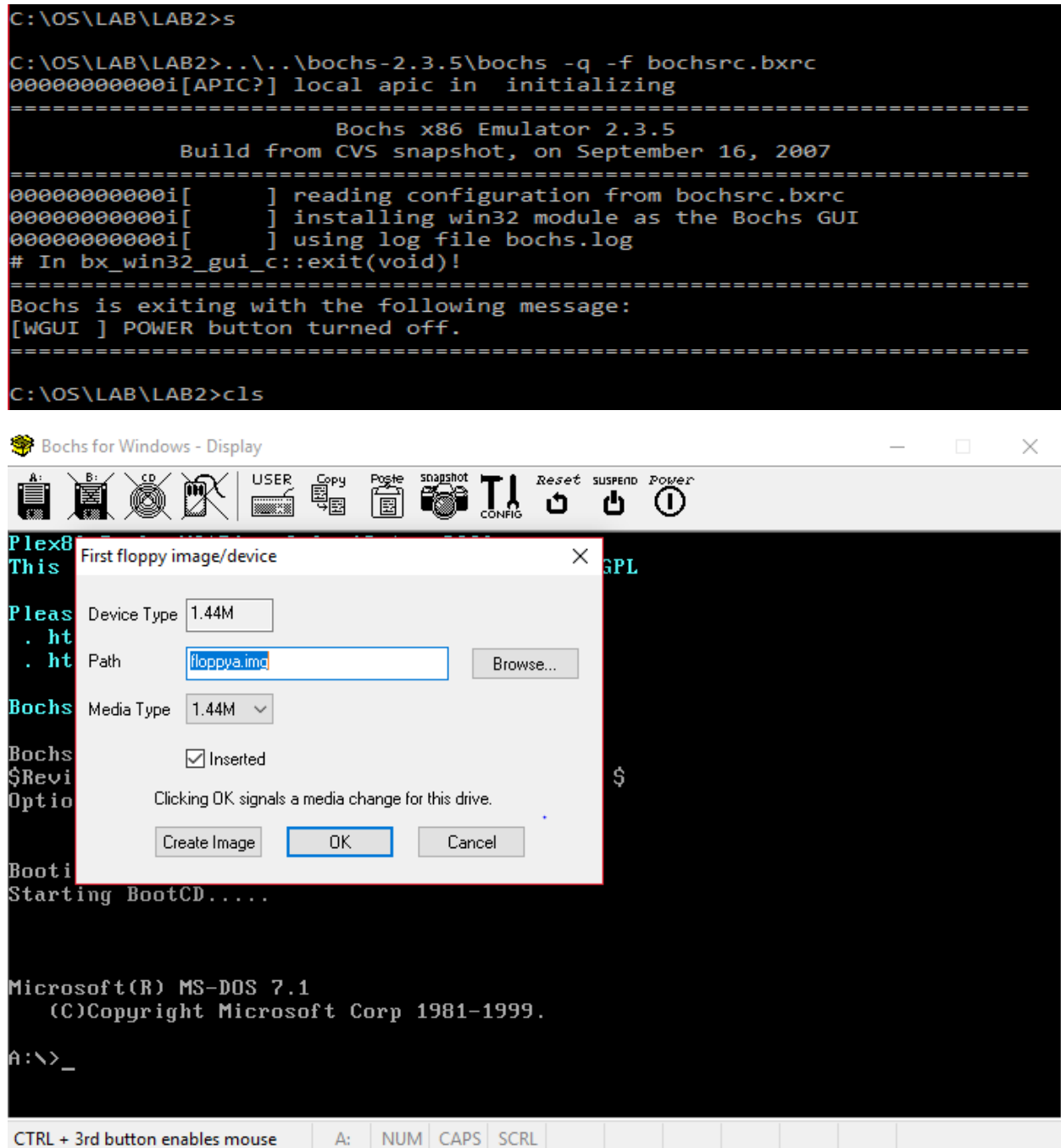
Directory of c:\OS\LAB\LAB2

20/09/2018  19:01    <DIR>          .
20/09/2018  19:01    <DIR>          ..
20/09/2018  19:01         1.474.560  a.img
19/09/2018  12:00           10.130  bochs.log
16/12/2008  00:18           1.625  bochsrc.bxrc
19/09/2018  12:08           15.922  boot.asm
16/09/2007  23:22           18.432  bximage.exe
27/02/2007  04:50          342.016  dd.exe
15/12/2008  21:52              78  dosfp.bat
20/09/2018  19:02         1.474.560  floppya.img
19/09/2018  12:09           7.966  kernel.asm
16/12/2008  00:21           228  Makefile
15/12/2008  20:20           44  s.bat
               11 File(s)          3.345.561 bytes
               2 Dir(s)  133.107.744.768 bytes free
```

6. jalankan perintah 'dosfp', lalu pindah ke windows 'Bochs' untuk mengatur lokasi file image, tampak seperti gambar dibawah. Dari prompt A:> ketikan perintah 'format b: /s' dan selesaikan prosesnya lalu tutup 'Bochs' dengan menu power.



7. jalankan perintah 's' dan akan menuju ke PC simulator dan pastikan posisi 'floppya.img'.



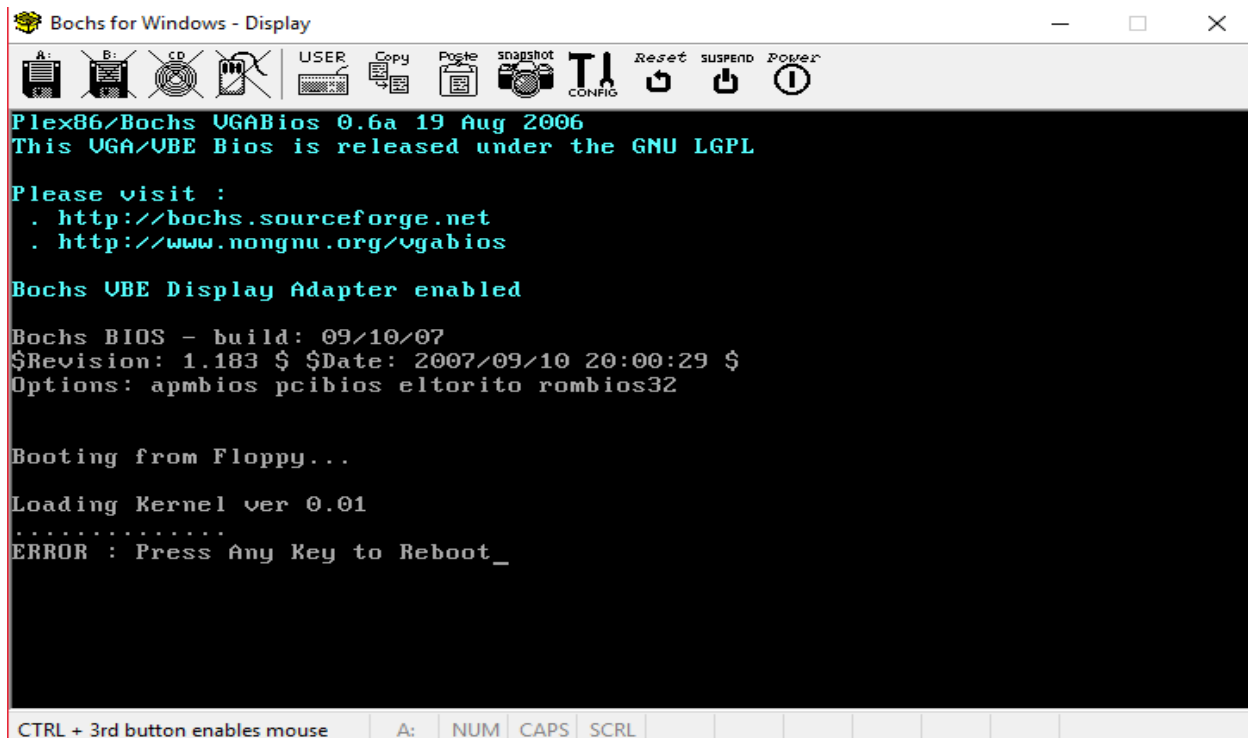
8. ketikkan perintah 'cls' untuk membersihkan layar, dan selanjutnya jalankan perintah 'make fp.disk' dan Jika berhasil akan muncul seperti gambar dibawah.

```
C:\OS\LAB\LAB2>make fp.disk
nasm boot.asm -o boot.bin -f bin
dd if=boot.bin of=floppya.img
rawwrite dd for windows version 0.5.
Written by John Newbigin <jn@it.swin.edu.au>
This program is covered by the GPL. See copying.txt for details
1+0 records in
1+0 records out

C:\OS\LAB\LAB2>s

C:\OS\LAB\LAB2>..\..\bochs-2.3.5\bochs -q -f bochsrc.bxrc
00000000000i[APIC?] local apic in initializing
=====
Bochs x86 Emulator 2.3.5
Build from CVS snapshot, on September 16, 2007
=====
00000000000i[      ] reading configuration from bochsrc.bxrc
00000000000i[      ] installing win32 module as the Bochs GUI
00000000000i[      ] using log file bochs.log
# In bx_win32_gui_c::exit(void)!
=====
Bochs is exiting with the following message:
[WGUI ] POWER button turned off.
=====
```

9. ketikkan perintah 's' untuk menjalankan PC simulator dan akan muncul seperti gambar dibawah.



10. ketikan 'notepad boot.asm' dan menyunting file boot.asm, cari teks 'loading kernel' pada notepad lalu sunting teks tersebut. Selanjutnya save dan lanjutkan ke cmd dengan menjalankan perintah 'make fp.disk', setelah itu ketikan 's' dan teks pada boot.asm akan berubah seperti gambar dibawah ini.

```
C:\OS\LAB\LAB2>notepad boot.asm
```

```
Plex86/Bochs VGABios 0.6a 19 Aug 2006
This UGA/VE Bios is released under the GNU LGPL

Please visit :
. http://bochs.sourceforge.net
. http://www.nongnu.org/vgabios

Bochs VBE Display Adapter enabled

Bochs BIOS - build: 09/10/07
$Revision: 1.183 $ $Date: 2007/09/10 20:00:29 $
Options: apmbios pcibios eltorito rombios32

Booting from Floppy...

Belajar membuat BOOTSTRAP-LOADER
.....
NAMA = RIO (L200170117)_
```

11. ketikan 'make kernel untuk membuat kernel'.

```
C:\OS\LAB\LAB2>make kernel
nasm kernel.asm -o kernel.bin -f bin
```

12. selanjutnya ketikan 'dir' untuk melihat bahwa kernel telah ditambahkan.

```
C:\OS\LAB\LAB2>dir
Volume in drive C is rio
Volume Serial Number is C8BC-A4E1

Directory of C:\OS\LAB\LAB2

20/09/2018  19:58      <DIR>          .
20/09/2018  19:58      <DIR>          ..
20/09/2018  19:01      1.474.560 a.img
20/09/2018  19:57       10.130 bochs.log
16/12/2008  00:18       1.625 bochsrc.bxrc
20/09/2018  19:55      15.923 boot.asm
20/09/2018  19:55       512 boot.bin
16/09/2007  23:22      18.432 bximage.exe
27/02/2007  04:50     342.016 dd.exe
15/12/2008  21:52       78 dosfp.bat
20/09/2018  19:55     1.474.560 floppy.a.img
19/09/2018  12:09       7.966 kernel.asm
20/09/2018  19:58       611 kernel.bin
16/12/2008  00:21       228 Makefile
15/12/2008  20:20       44 s.bat
               13 File(s)        3.346.685 bytes
               2 Dir(s)  133.103.751.168 bytes free
```

13. jalankan perintah 's' dan akan muncul booting from floppy

```
C:\OS\LAB\LAB2>s

C:\OS\LAB\LAB2>..\..\bochs-2.3.5\bochs -q -f bochsrc.bxrc
000000000000i[APIC?] local apic in  initializing
=====
                        Bochs x86 Emulator 2.3.5
                        Build from CVS snapshot, on September 16, 2007
=====
000000000000i[      ] reading configuration from bochsrc.bxrc
000000000000i[      ] installing win32 module as the Bochs GUI
000000000000i[      ] using log file bochs.log
# In bx_win32_gui_c::exit(void)!
=====
Bochs is exiting with the following message:
[VGUI ] POWER button turned off.
=====
```

14. jalankan perintah 'notepad kernel.asm' lalu cari teks 'welcome to my kernel' pada notepad dan edit teks tersebut menjadi 'belajar membuat kernel' dan save.

```
C:\OS\LAB\LAB2>notepad kernel.asm  
C:\OS\LAB\LAB2>make kernel  
nasm kernel.asm -o kernel.bin -f bin
```

```
C:\OS\LAB\LAB2>s  
C:\OS\LAB\LAB2>..\..\bochs-2.3.5\bochs -q -f bochsrc.bxrc  
00000000000i[APIC?] local apic in initializing  
=====
```

Bochs x86 Emulator 2.3.5  
Build from CVS snapshot, on September 16, 2007

```
=====
```

00000000000i[ ] reading configuration from bochsrc.bxrc  
00000000000i[ ] installing win32 module as the Bochs GUI  
00000000000i[ ] using log file bochs.log  
# In bx\_win32\_gui\_c::exit(void)!

```
=====
```

Bochs is exiting with the following message:  
[WGUI ] POWER button turned off.  
=====

