

# **OPERATION SYSTEM**

## **Modul 2**



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**2019**

1. Masuk ke direktori C:/OS. Lakukan setpath, kemudian masuk ke direktori lab/lab2. Kemudian lakukan dir untuk mengecek isi dari direktori.

```
Command Prompt
Microsoft Windows [Version 10.0.10240]
(c) 2015 Microsoft Corporation. All rights reserved.

C:\Users\User>cd C:/OS
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
C:\OS\LAB\LAB2>
```

Activate Windows  
Go to Settings to activate Windows.

```
Command Prompt
Microsoft Windows [Version 10.0.10240]
(c) 2015 Microsoft Corporation. All rights reserved.

C:\Users\User>cd C:/OS
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
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C:\OS\LAB\LAB2>
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Command Prompt
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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
C:\OS\LAB\LAB2>
```

2. Kemudian buat suatu file bernama “floppya.img”, dengan bantuan aplikasi bxiimage

```
C:\Windows\system32\cmd.exe
21/09/2018 20:53 1.474.560 floppya.img
19/09/2018 12:09 7.966 kernel.asm
08/09/2016 20:36 604 kernel.bin
15/12/2008 23:21 228 Makefile
15/12/2008 19:20 44 s.bat
12 File(s) 1.872.117 bytes
2 Dir(s) 87.873.486.848 bytes free

C:\OS\LAB\LAB2>del floppya.img
C:\OS\LAB\LAB2>bxiimage
-----
bximage
Disk Image Creation Tool for Bochs
$Id: bxiimage.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] floppya.img

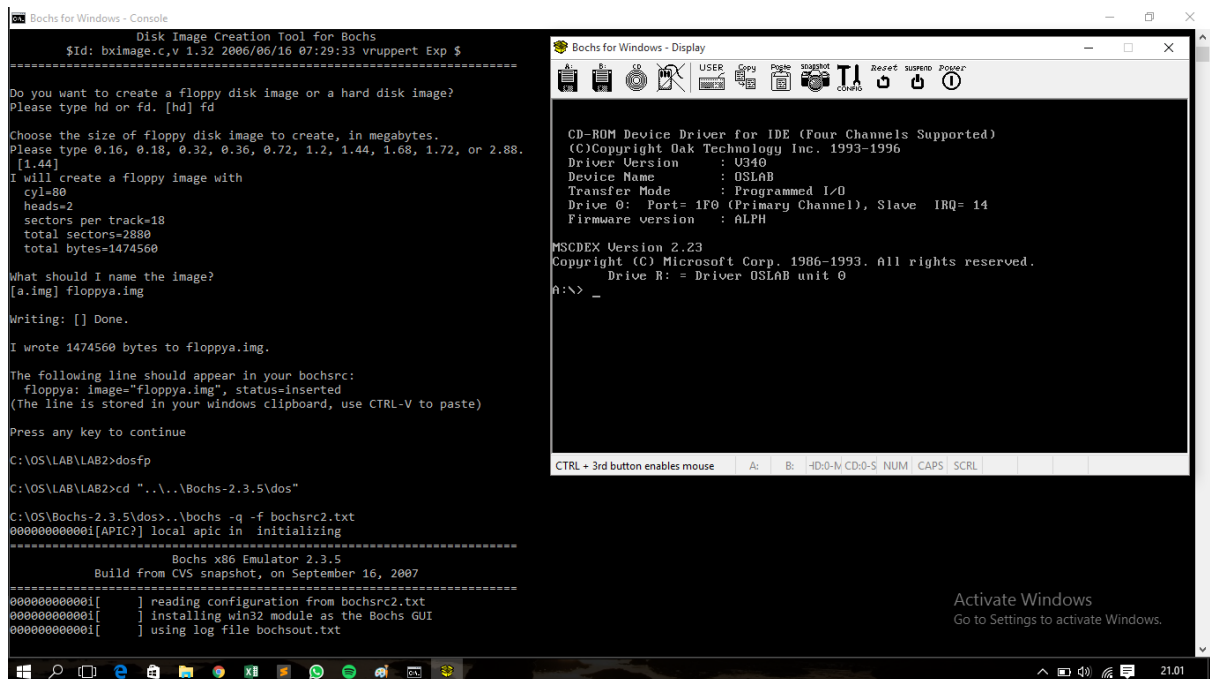
Writing: [] Done.

I wrote 1474560 bytes to floppya.img.

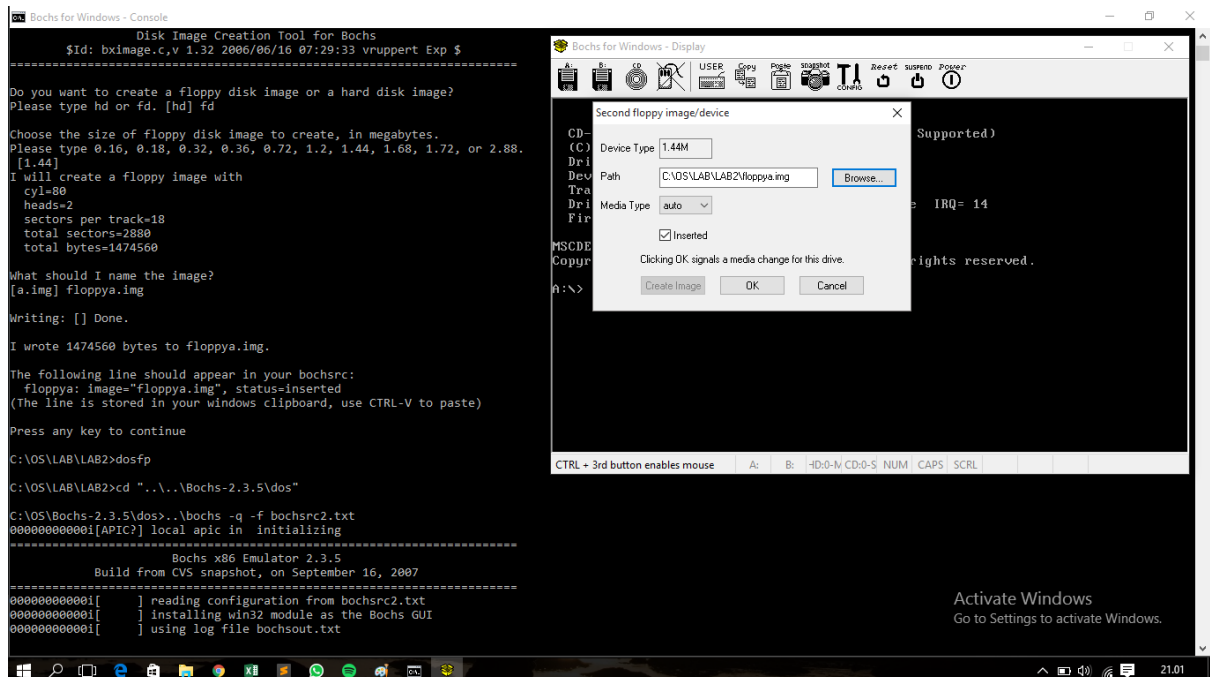
The following line should appear in your bochsrc:
floppya: image="floppya.img", status=inserted
(The line is stored in your windows clipboard, use CTRL-V to paste)

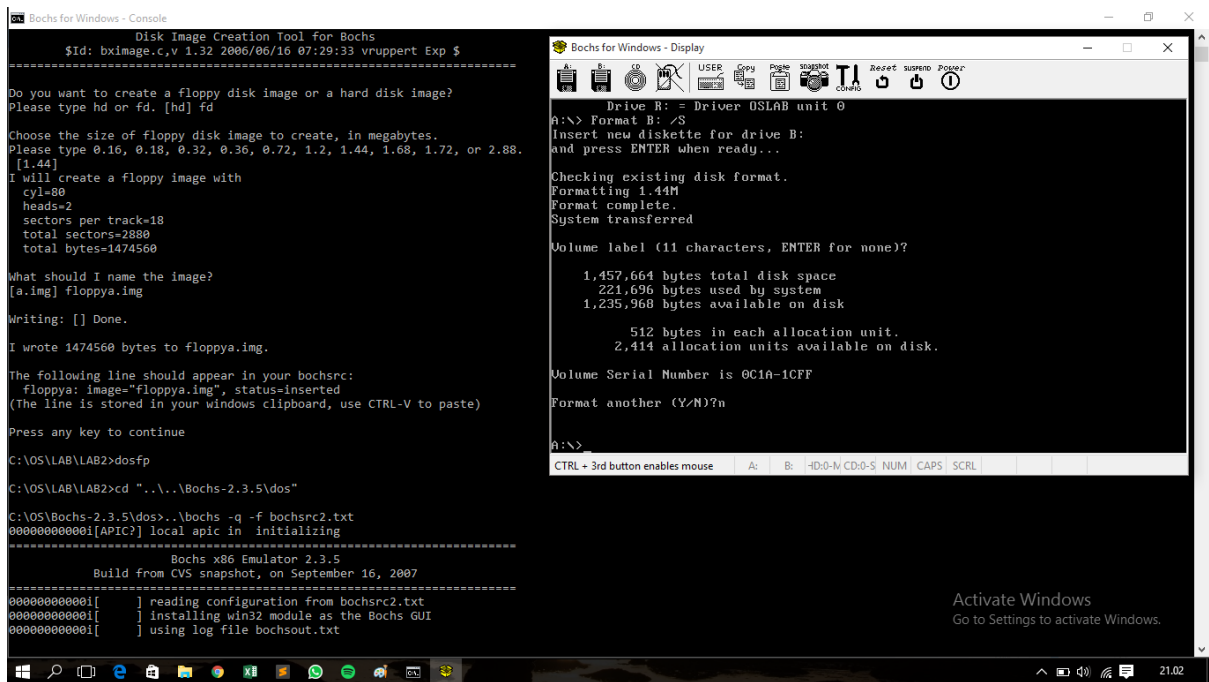
Press any key to continue
C:\OS\LAB\LAB2>
```

### 3. Kemudian format floppy.a.img dengan mengisi DOS ke dalamnya

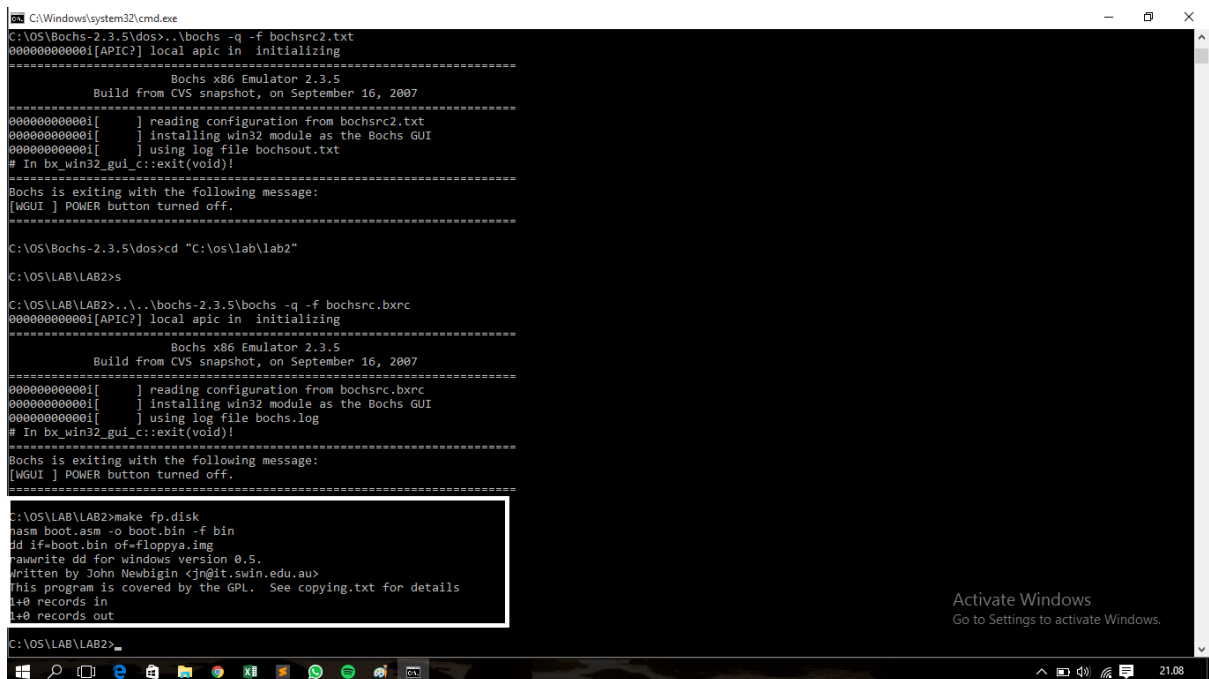


### 4. Atur lokasi floppya.img yang ada dalam folder lab2. Kemudian lakukan pemformatan.





5. Memasukkan source code dari boot.asm ke bootsector “floppya.img”. Kemudian jalankan perintah make fp.disk



```
C:\Windows\system32\cmd.exe
C:\OS\LAB\LAB2>.\..\bochs-2.3.5\bochs -q -f bochsrc.bxrc
0000000000[APIC?] local apic in initializing

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

=====
0000000000[ ] reading configuration from bochsrc.bxrc
0000000000[ ] installing win32 module as the Bochs GUI
0000000000[ ] using log file bochs.log
# In bx_win32_gui_c::exit(void)!

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

=====

C:\OS\LAB\LAB2>make fp.disk
nasm boot.asm -o boot.bin -f bin
dd if=boot.bin of=floppy.img
rawwrite dd for windows version 0.5.
Written by John Newbigin <jnewit.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
0000000000[APIC?] local apic in initializing

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

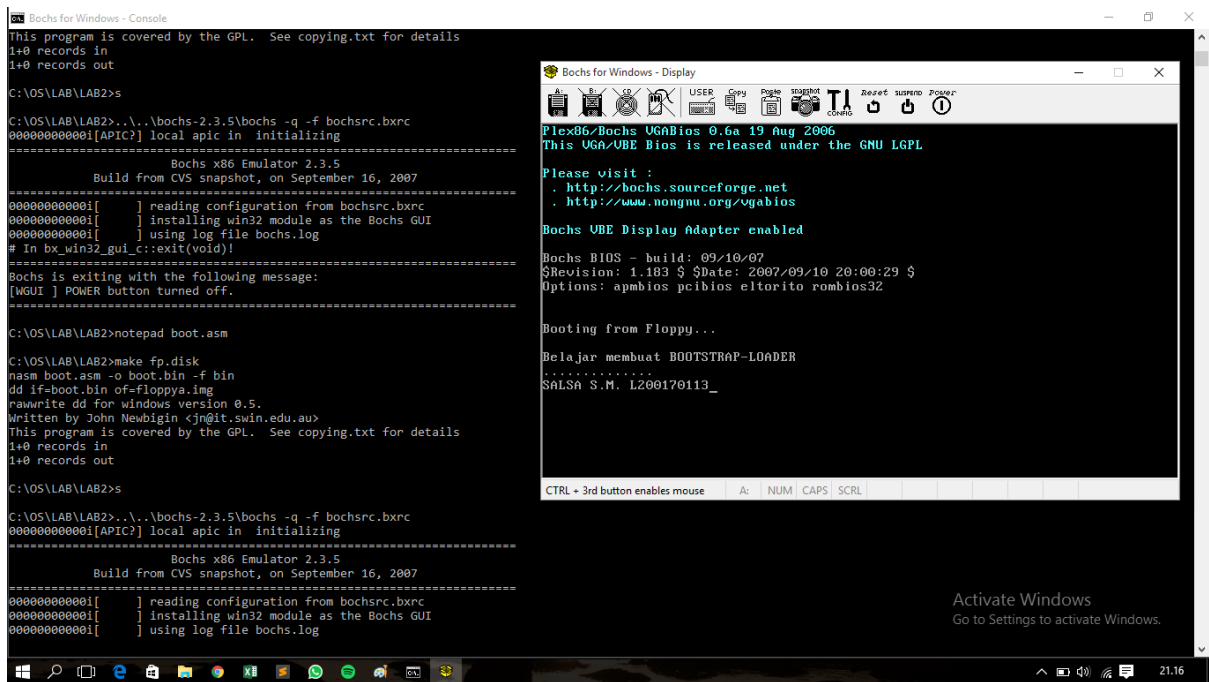
=====
0000000000[ ] reading configuration from bochsrc.bxrc
0000000000[ ] installing win32 module as the Bochs GUI
0000000000[ ] using log file bochs.log
# In bx_win32_gui_c::exit(void)!

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

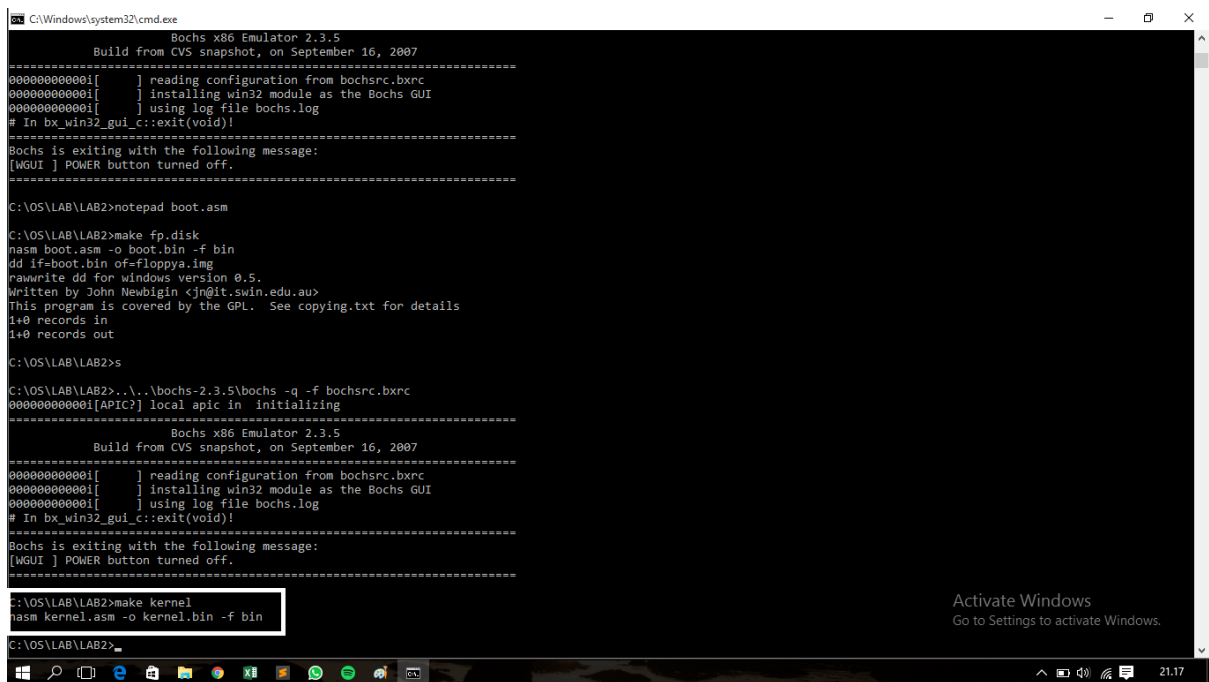
=====

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

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



8. Ketikkan make kernel. Kemudian cek apakah sudah ada file baru bernama “kernel.bin”



```
C:\Windows\system32\cmd.exe
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.
=====

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

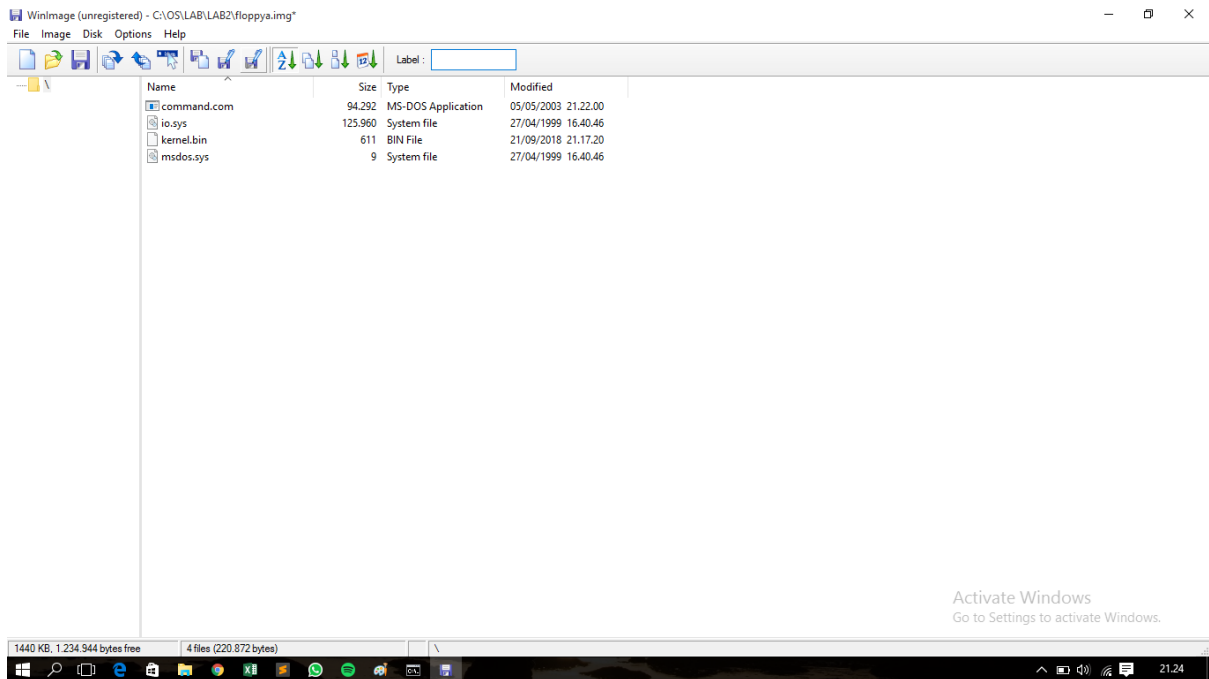
C:\OS\LAB\LAB2>dir
Volume in drive C is System
Volume Serial Number is 4A6B-68E6

Directory of C:\OS\LAB\LAB2

21/09/2018  20.54  <DIR>          .
21/09/2018  20.54  <DIR>          ..
21/09/2018  21.17                10.153 bochsrc.log
15/12/2008  23.18                1.625 bochsrc.bxrc
21/09/2018  21.16                15.921 boot.asm
21/09/2018  21.16                512 boot.bin
16/09/2007  23:22                18.432 bximage.exe
27/02/2007  03.50                342.016 dd.exe
15/12/2008  20.52                 78 dosfp.bat
21/09/2018  21.16            1,474,560 floppy.a.img
19/09/2018  12.09                 7,966 kernel.asm
21/09/2018  21.17                611 kernel.bin
15/12/2008  23.21                44 s.bat
15/12/2008  19.20                12 File(s)    1,872,146 bytes
                        2 Dir(s)    87,871,979,520 bytes free

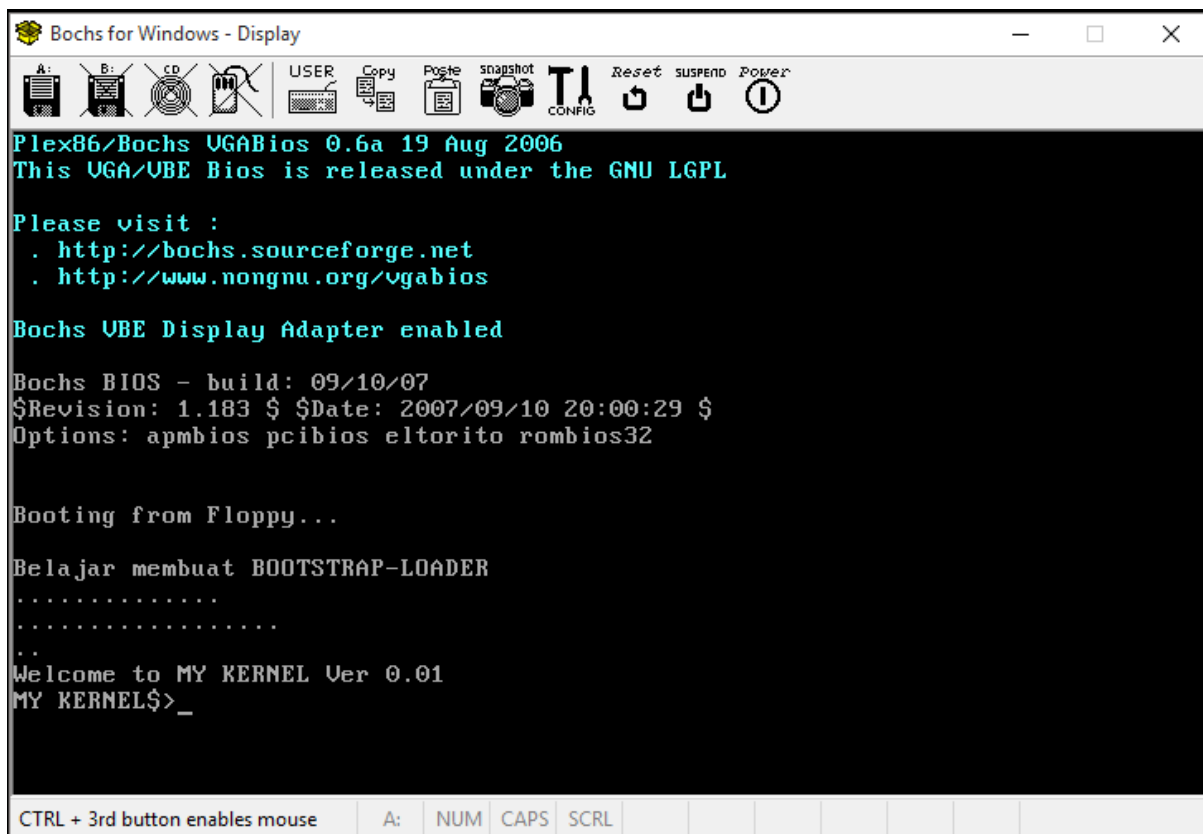
C:\OS\LAB\LAB2>
```

## 9. Memasukkan file kernel.bin ke dalam file floppy.a.img

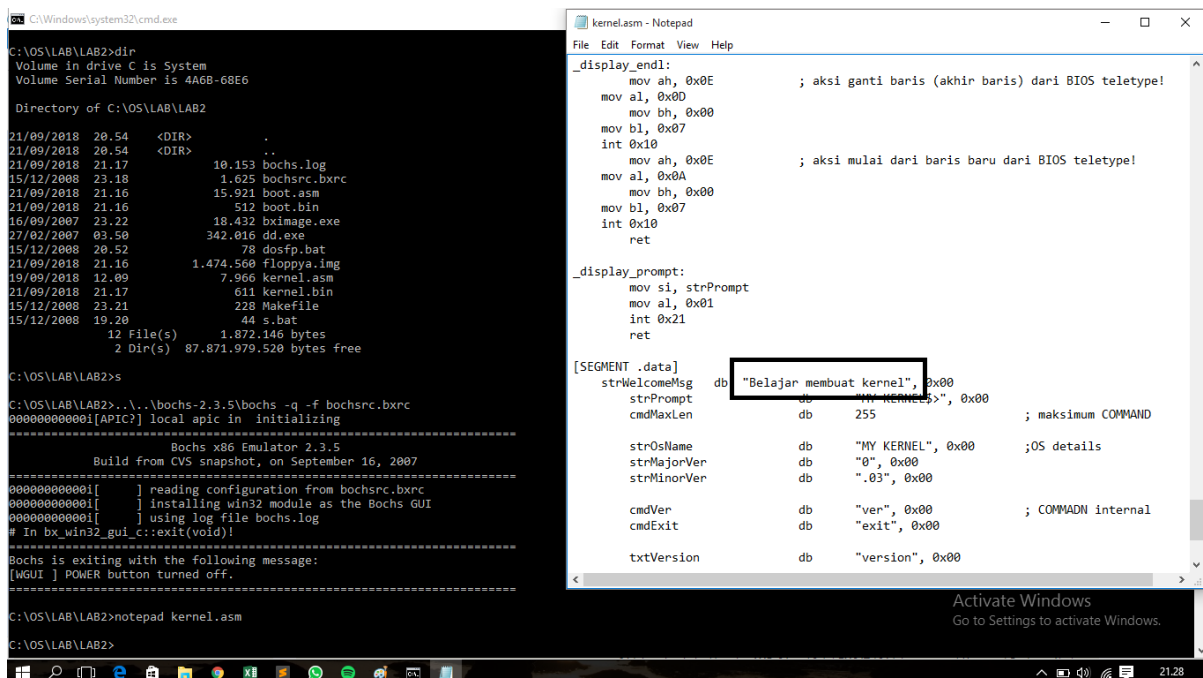




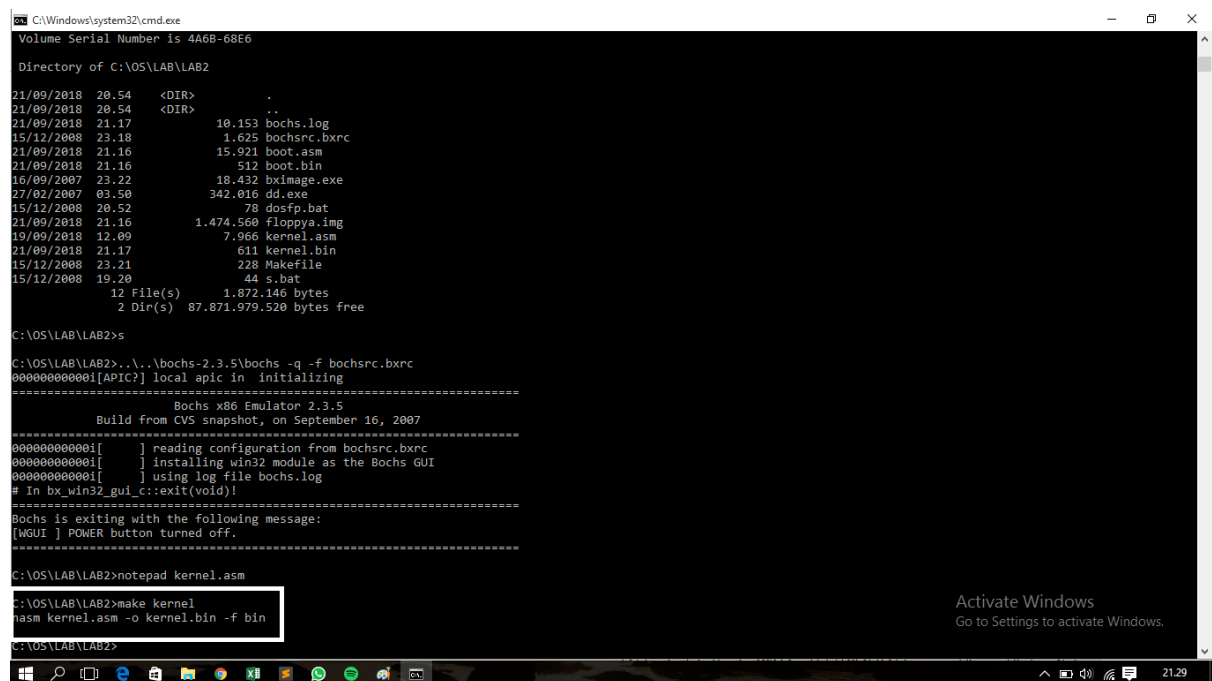
## 10. Cek dengan “S”



## 11. Modifikasi file kernel.asm. Ganti strWelcomeMsg sesuai perintah.



11. Kemudian make kernel kembali untuk mererefresh.



```
C:\Windows\system32\cmd.exe
Volume Serial Number is 4A6B-68E6

Directory of C:\OS\LAB\LAB2

21/09/2018  20:54    <DIR>          .
21/09/2018  20:54    <DIR>          ..
21/09/2018  21:17                10.153 bochs.log
15/12/2008  23:18                1.625 bochsrc.bxrc
21/09/2018  21:16                15.921 boot.asm
21/09/2018  21:16                512 boot.bin
16/09/2007  23:22            18.432 bximage.exe
27/02/2007  03:50            342.016 dd.exe
15/12/2008  20:52                78 dosfp.bat
21/09/2018  21:16            1.474.560 floppy.img
19/09/2018  12:09                7.966 kernel.asm
21/09/2018  21:17                611 kernel.bin
15/12/2008  23:21                228 Makefile
15/12/2008  19:20                44 s.bat
               12 File(s)      1.872.146 bytes
               2 Dir(s)      87.871.979.520 bytes free

C:\OS\LAB\LAB2>s

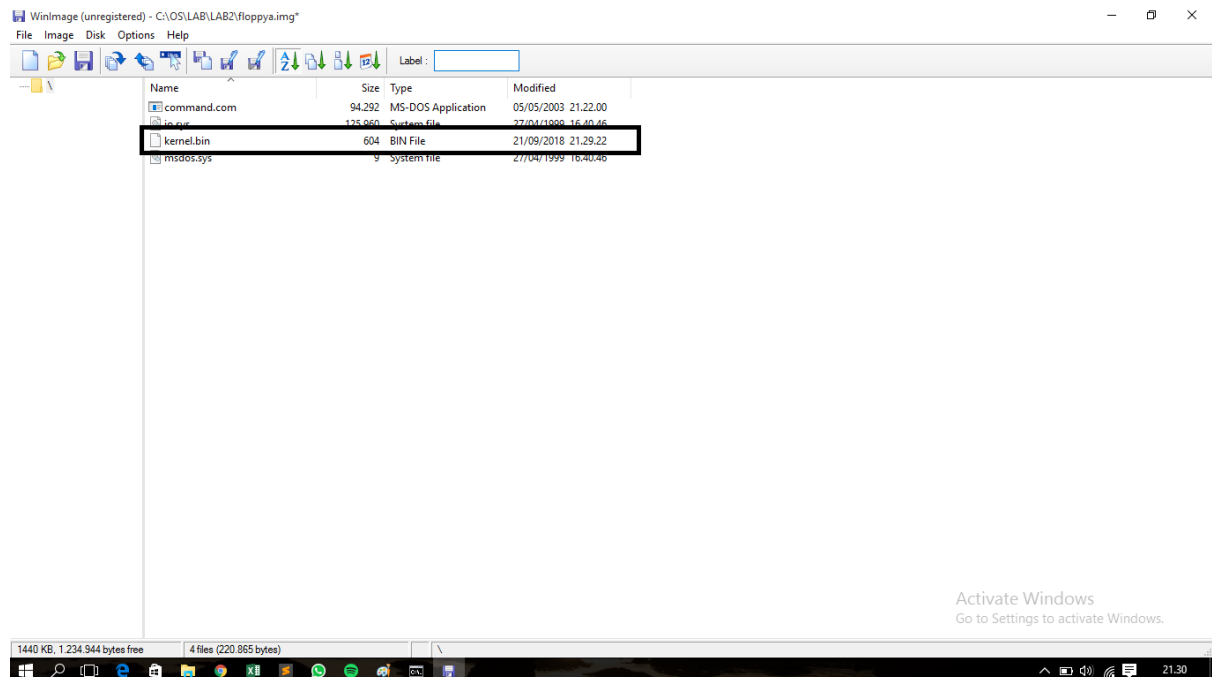
C:\OS\LAB\LAB2>..\..\bochs-2.3.5\bochs -q -f bochsrc.bxrc
000000000001[APIC?] local apic in initializing
=====
Bochs x86 Emulator 2.3.5
Build from CVS snapshot, on September 16, 2007
=====
000000000001[ ] reading configuration from bochsrc.bxrc
000000000001[ ] installing win32 module as the Bochs GUI
000000000001[ ] using log file bochs.log
# In bx_win32_gui_c::exit(void)!
=====
Bochs is exiting with the following message:
[WGUI ] POWER button turned off.
=====

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>
```

12. Dan masukkan kembali kernel yang telah diperbaharui.



13. Kemudian cek dengan mengetikkan “S”

