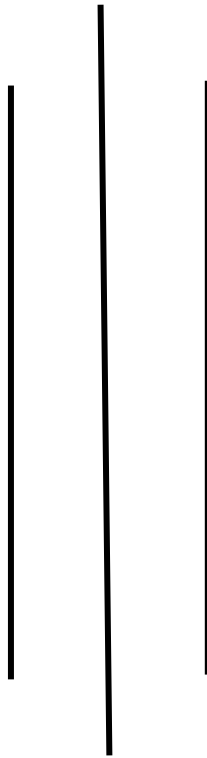


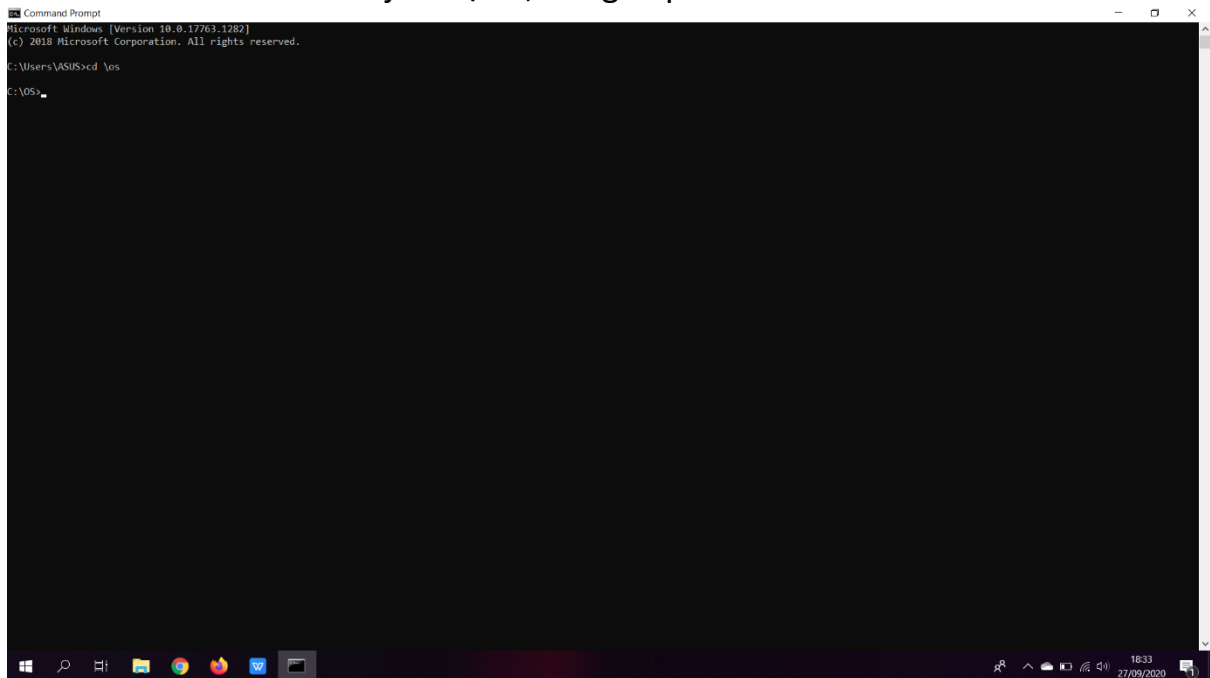
LAPORAN KEGIATAN PRAKTIKUM SISTEM OPERASI



Pengenalan Sistem Pengembang OS

MUHAMMAD DWI ALFIAN
L200190243
G

1. Menjalankan program command prompt atau cmd
2. Masuk ke direktori kerja 'C:\OS', dengan perintah 'cd os' .<ENTER>

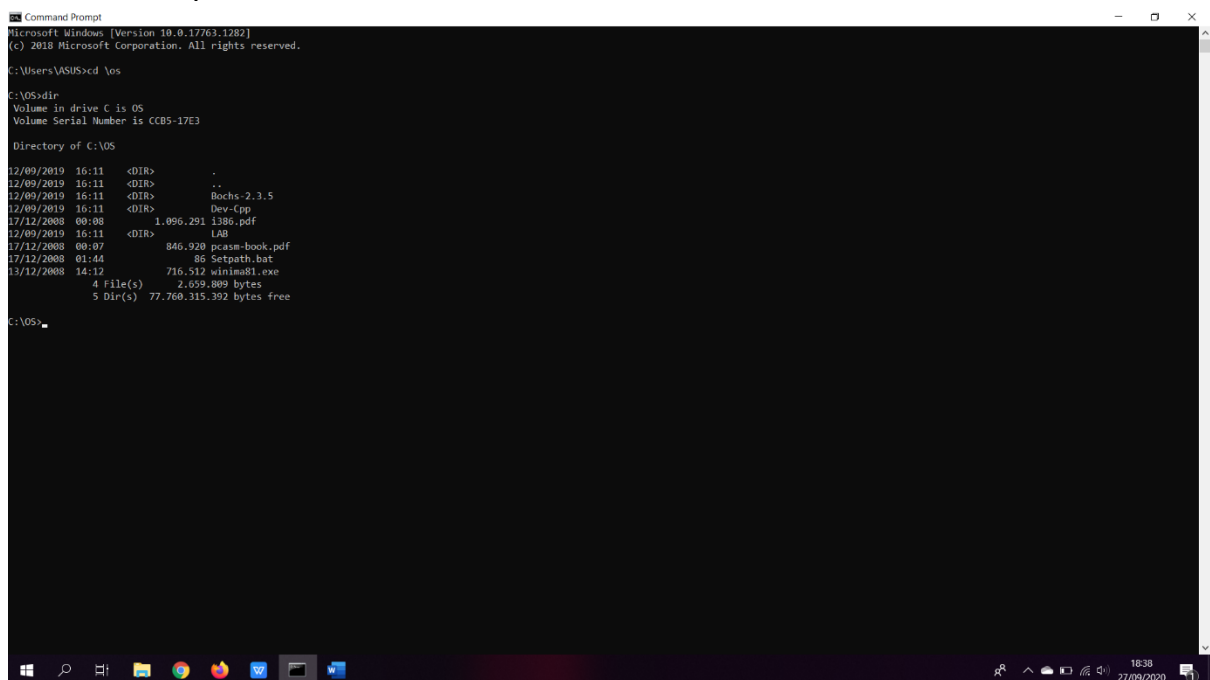


```
Command Prompt
Microsoft Windows [Version 10.0.17763.1282]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\ASUS>cd \os

C:\OS>
```

3. Masukan perintah dir, untuk melihat isi direktori di dalam folder tersebut



```
Command Prompt
Microsoft Windows [Version 10.0.17763.1282]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\ASUS>cd \os

C:\OS>dir
Volume in drive C is OS
Volume Serial Number is CCB5-17E3

Directory of C:\OS

12/09/2019  16:11    <DIR>          .
12/09/2019  16:11    <DIR>          ..
12/09/2019  16:11    <DIR>          Bochs-2.3.5
12/09/2019  16:11    <DIR>          Dev-Cpp
17/12/2008  00:08             1.096.291  1386.pdf
12/09/2019  16:11    <DIR>          LAB
17/12/2008  00:07             846.920  pcasm-book.pdf
17/12/2008  01:44              86  Setpath.bat
13/12/2008  14:12             716.512  winima81.exe
               4 File(s)      2.659.809 bytes
               5 Dir(s)      77.768.315.392 bytes free

C:\OS>
```

4. Jalankan file setpath, untuk menjalankannya ketik 'setpath' tekan<ENTER>

```
Command Prompt
Microsoft Windows [Version 10.0.17763.1282]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\ASUS>cd \os

C:\OS>dir
Volume in drive C is OS
Volume Serial Number is CCB5-17E3

Directory of C:\OS

12/09/2019 16:11 <DIR>      .
12/09/2019 16:11 <DIR>      ..
12/09/2019 16:11 <DIR>      Bochs-2.3.5
12/09/2019 16:11 <DIR>      Dev-Cpp
17/12/2008 00:00      1,096,291 1386.pdf
12/09/2019 16:11 <DIR>      LAB
17/12/2008 00:07      846,920 pcasm-book.pdf
17/12/2008 01:44           86 Setpath.bat
13/12/2008 14:12      716,512 winima81.exe
                4 File(s)      2,059,809 bytes
                5 Dir(s)      77,760,315,392 bytes free

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>
```

5. Masuk ke direktori kerja pada 'C:\OS\LAB\LAB1'

```
Command Prompt
Microsoft Windows [Version 10.0.17763.1282]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\ASUS>cd \os

C:\OS>dir
Volume in drive C is OS
Volume Serial Number is CCB5-17E3

Directory of C:\OS

12/09/2019 16:11 <DIR>      .
12/09/2019 16:11 <DIR>      ..
12/09/2019 16:11 <DIR>      Bochs-2.3.5
12/09/2019 16:11 <DIR>      Dev-Cpp
17/12/2008 00:00      1,096,291 1386.pdf
12/09/2019 16:11 <DIR>      LAB
17/12/2008 00:07      846,920 pcasm-book.pdf
17/12/2008 01:44           86 Setpath.bat
13/12/2008 14:12      716,512 winima81.exe
                4 File(s)      2,059,809 bytes
                5 Dir(s)      77,760,315,392 bytes free

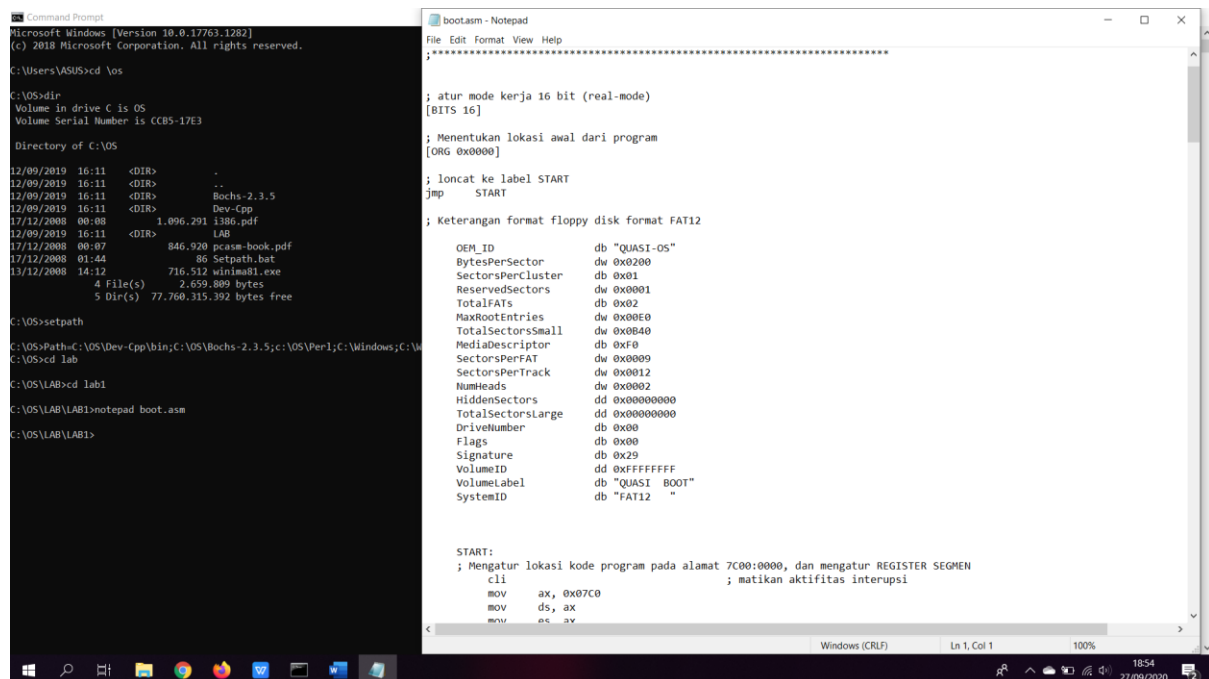
C:\OS>setpath

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

C:\OS\LAB>cd lab1

C:\OS\LAB\LAB1>
```

6. Mengetik perintah 'Notepad boot.asm' dan tekan <ENTER>



```
Microsoft Windows [Version 10.0.17763.1282]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\VASUS>cd \os

C:\OS>dir
Volume in drive C is OS
Volume Serial Number is CCB5-17E3

Directory of C:\OS

12/09/2019  16:11    <DIR>        .
12/09/2019  16:11    <DIR>        ..
12/09/2019  16:11    <DIR>        Bochs-2.3.5
12/09/2019  16:11    <DIR>        Dev-Cpp
17/12/2008  00:08             1,096,291 i386.pdf
17/12/2008  00:07             846,920 pcasm-book.pdf
17/12/2008  01:44              86 Setpath.bat
13/12/2008  14:12             716,512 winima81.exe
               4 File(s)      2,659,809 bytes
               5 Dir(s)  77,760,315,392 bytes free

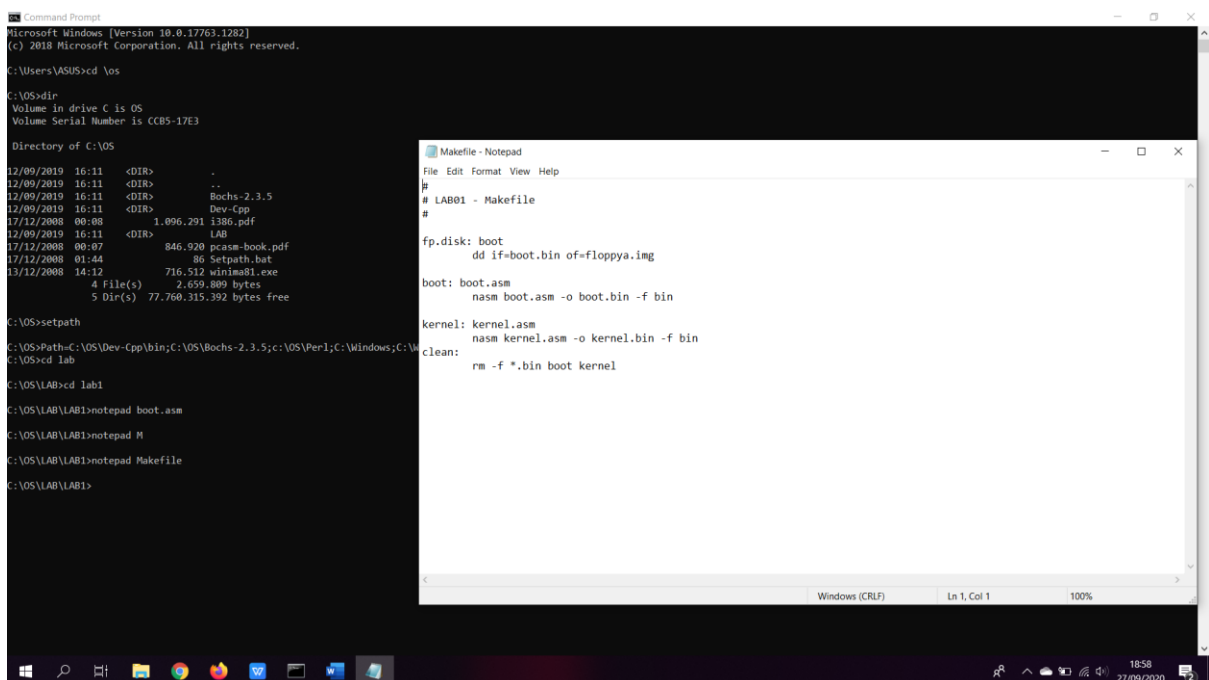
C:\OS>setpath
C:\OS>Path=C:\OS\Dev-Cpp\bin;C:\OS\Bochs-2.3.5;c:\OS\Perl;c:\Windows;c:\Windows\system32
C:\OS>cd lab
C:\OS\LAB>cd lab1
C:\OS\LAB\LAB1>notepad boot.asm
C:\OS\LAB\LAB1>
```

```
bootasm - Notepad
File Edit Format View Help
;*****
;
;  atur mode kerja 16 bit (real-mode)
[BITS 16]
;
;  Menentukan lokasi awal dari program
[ORG 0x0000]
;
;  loncat ke label START
jmp     START
;
;  Keterangan format floppy disk format FAT12

OEM_ID      db "QUASI-OS"
BytesPerSector dw 0x0200
SectorsPerCluster db 0x01
ReservedSectors db 0x0001
TotalFATS      db 0x02
MaxRootEntries dw 0x00E0
TotalSectorsSmall dw 0x0B40
MediaDescriptor db 0xF0
SectorsPerFAT dw 0x0009
SectorsPerTrack dw 0x0012
NumHeads       dw 0x0002
HiddenSectors  dd 0x00000000
TotalSectorsLarge dd 0x00000000
DriveNumber    db 0x00
Flags          db 0x00
Signature      db 0x29
VolumeID       db 0xFFFFFFFF
VolumeLabel    db "QUASI BOOT"
SystemID       db "FAT12 "

START:
;  Mengatur lokasi kode program pada alamat 7C00:0000, dan mengatur REGISTER SEGMENT
cli
mov     ax, 0x07C0
mov     ds, ax
mov     es, ax
```

7. Mengetik perintah 'Notepad M' tekan tombol 'TAB' sehingga muncul 'Notepad Makefile' dan tekan <ENTER>



```
Microsoft Windows [Version 10.0.17763.1282]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\VASUS>cd \os

C:\OS>dir
Volume in drive C is OS
Volume Serial Number is CCB5-17E3

Directory of C:\OS

12/09/2019  16:11    <DIR>        .
12/09/2019  16:11    <DIR>        ..
12/09/2019  16:11    <DIR>        Bochs-2.3.5
12/09/2019  16:11    <DIR>        Dev-Cpp
17/12/2008  00:08             1,096,291 i386.pdf
17/12/2008  00:07             846,920 pcasm-book.pdf
17/12/2008  01:44              86 Setpath.bat
13/12/2008  14:12             716,512 winima81.exe
               4 File(s)      2,659,809 bytes
               5 Dir(s)  77,760,315,392 bytes free

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
C:\OS\LAB>cd lab1
C:\OS\LAB\LAB1>notepad boot.asm
C:\OS\LAB\LAB1>notepad M
C:\OS\LAB\LAB1>notepad Makefile
C:\OS\LAB\LAB1>
```

```
Makefile - Notepad
File Edit Format View Help
#
# LAB01 - Makefile
#

fp.disk: boot
dd if=boot.bin of=floppya.img

boot: boot.asm
nasm boot.asm -o boot.bin -f bin

kernel: kernel.asm
nasm kernel.asm -o kernel.bin -f bin

clean:
rm -f *.bin boot kernel
```

8. Sekarang membuka 'Command Prompt' dan buka direktori kerja 'LAB1' selanjutnya ketik 'make fp.disk'

```
Command Prompt
Microsoft Windows [Version 10.0.17763.1282]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\ASUS>cd \os

C:\OS>dir
Volume in drive C is OS
Volume Serial Number is CCB5-17E3

Directory of C:\OS

12/09/2019  16:11    <DIR>        .
12/09/2019  16:11    <DIR>        ..
12/09/2019  16:11    <DIR>        Bochs-2.3.5
12/09/2019  16:11    <DIR>        Dev-Cpp
12/12/2008  00:08             1.096.291 1386.pdf
12/09/2019  16:11    <DIR>        LAB
12/12/2008  00:07             846.920 pcasm-book.pdf
12/12/2008  01:44              86 Setpath.bat
13/12/2008  14:12             716.512 winima81.exe
               4 File(s)      2.659.809 bytes
               5 Dir(s)      77.760.315.392 bytes free

C:\OS>setpath

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

C:\OS\LAB>cd lab1

C:\OS\LAB\LAB1>notepad boot.asm

C:\OS\LAB\LAB1>notepad M

C:\OS\LAB\LAB1>notepad Makefile

C:\OS\LAB\LAB1>make fp.disk
nasm boot.asm -o boot.bin -f bin
dd if=boot.bin of=floppya.img
pwwrite dd for windows version 0.5.
Written by John Newbigin <jneit.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\LAB1>
```

9. Mengetik perintah 'del floppya.img /P' lanjutkan dengan tekan 'Y' dan <ENTER>

```
Command Prompt
Microsoft Windows [Version 10.0.17763.1282]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\ASUS>cd \os

C:\OS>dir
Volume in drive C is OS
Volume Serial Number is CCB5-17E3

Directory of C:\OS

12/09/2019  16:11    <DIR>        .
12/09/2019  16:11    <DIR>        ..
12/09/2019  16:11    <DIR>        Bochs-2.3.5
12/09/2019  16:11    <DIR>        Dev-Cpp
12/12/2008  00:08             1.096.291 1386.pdf
12/09/2019  16:11    <DIR>        LAB
12/12/2008  00:07             846.920 pcasm-book.pdf
12/12/2008  01:44              86 Setpath.bat
13/12/2008  14:12             716.512 winima81.exe
               4 File(s)      2.659.809 bytes
               5 Dir(s)      77.760.315.392 bytes free

C:\OS>setpath

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

C:\OS\LAB>cd lab1

C:\OS\LAB\LAB1>notepad boot.asm

C:\OS\LAB\LAB1>notepad M

C:\OS\LAB\LAB1>notepad Makefile

C:\OS\LAB\LAB1>make fp.disk
nasm boot.asm -o boot.bin -f bin
dd if=boot.bin of=floppya.img
pwwrite dd for windows version 0.5.
Written by John Newbigin <jneit.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\LAB1>del floppya.img /P
C:\OS\LAB\LAB1>del floppya.img, Delete (Y/N)? y

C:\OS\LAB\LAB1>dir
Volume in drive C is OS
```

10. Mengetik perintah perintah 'dir'. Selanjutnya panggil 'bimage'

```
Command Prompt - bimage
140 records in
140 records out

C:\OS\LAB\LAB1>del floppy.img /P
C:\OS\LAB\LAB1>floppy.img, Delete (Y/N)? y

C:\OS\LAB\LAB1>dir
Volume in drive C is OS
Volume Serial Number is CCB5-17E3

Directory of C:\OS\LAB\LAB1

27/09/2020 19:03 <DIR>      .
27/09/2020 19:03 <DIR>      ..
10/09/2019 16:19          10.235 bochsout.txt
15/12/2008 16:17          1.628 bochsrc.bsrc
14/12/2008 12:02          14.365 boot.asm
27/09/2020 19:00           512 boot.bin
16/09/2015 07:51           512 boots.bin
15/12/2008 00:47           78 dosfp.bat
14/12/2008 11:45          7.966 kernel.asm
27/09/2020 18:56           0 M.txt
15/12/2008 16:21          227 Makefile
15/12/2008 12:20           44 s.bat
                10 File(s)      35,567 bytes
                2 Dir(s)      76,867,072,000 bytes free

C:\OS\LAB\LAB1>bimage
=====
                bimage
                Disk Image Creation Tool for Bochs
                $Id: bimage.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]
```

11. Mengetik perintah 'fd' dan tekan <ENTER>

```
Command Prompt - bimage
C:\OS\LAB\LAB1>del floppy.img /P
C:\OS\LAB\LAB1>floppy.img, Delete (Y/N)? y

C:\OS\LAB\LAB1>dir
Volume in drive C is OS
Volume Serial Number is CCB5-17E3

Directory of C:\OS\LAB\LAB1

27/09/2020 19:03 <DIR>      .
27/09/2020 19:03 <DIR>      ..
10/09/2019 16:19          10.235 bochsout.txt
15/12/2008 16:17          1.628 bochsrc.bsrc
14/12/2008 12:02          14.365 boot.asm
27/09/2020 19:00           512 boot.bin
16/09/2015 07:51           512 boots.bin
15/12/2008 00:47           78 dosfp.bat
14/12/2008 11:45          7.966 kernel.asm
27/09/2020 18:56           0 M.txt
15/12/2008 16:21          227 Makefile
15/12/2008 12:20           44 s.bat
                10 File(s)      35,567 bytes
                2 Dir(s)      76,867,072,000 bytes free

C:\OS\LAB\LAB1>bimage
=====
                bimage
                Disk Image Creation Tool for Bochs
                $Id: bimage.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]
```

12. Memilh tipe yang paling banyak digunakan saat ini yaitu tipe floppy dengan

```
Command Prompt - bximage
C:\OS\LAB\LAB1>del floppy.img /P
C:\OS\LAB\LAB1>floppya.img, Delete (Y/N)? y

C:\OS\LAB\LAB1>dir
Volume in drive C is OS
Volume Serial Number is CCB5-17E3

Directory of C:\OS\LAB\LAB1

27/09/2020 19:03 <DIR> .
27/09/2020 19:03 <DIR> ..
10/09/2019 16:19      10.235 bochsout.txt
15/12/2008 16:17       1.628 bochsrc.bxrc
14/12/2008 12:02      14.365 boot.asm
27/09/2020 19:00       512 boot.bin
16/09/2015 07:51       512 boots.bin
15/12/2008 00:47        78 dosfp.bat
14/12/2008 11:45       7.966 kernel.asm
27/09/2020 18:56         0 H.txt
15/12/2008 16:21       227 Makefile
15/12/2008 12:20        44 s.bat
                10 File(s)      35,567 bytes
                2 Dir(s)      76,867,072,000 bytes free

C:\OS\LAB\LAB1>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] 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]
```

13. Terakhir memberikan nama file, ketikan 'floppya.img' dan <ENTER>

```
Command Prompt - bximage
Directory of C:\OS\LAB\LAB1

27/09/2020 19:03 <DIR> .
27/09/2020 19:03 <DIR> ..
10/09/2019 16:19      10.235 bochsout.txt
15/12/2008 16:17       1.628 bochsrc.bxrc
14/12/2008 12:02      14.365 boot.asm
27/09/2020 19:00       512 boot.bin
16/09/2015 07:51       512 boots.bin
15/12/2008 00:47        78 dosfp.bat
14/12/2008 11:45       7.966 kernel.asm
27/09/2020 18:56         0 H.txt
15/12/2008 16:21       227 Makefile
15/12/2008 12:20        44 s.bat
                10 File(s)      35,567 bytes
                2 Dir(s)      76,867,072,000 bytes free

C:\OS\LAB\LAB1>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] 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
```

14. Memastikan keberadaan file image tersebut dengan perintah 'dir'

```
Command Prompt
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] 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.img

Writing: [] Done.

I wrote 1474560 bytes to floppy.img.

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

Press any key to continue

C:\OS\LAB\LAB1>dir
Volume in drive C is OS
Volume Serial Number is CCB5-17E3

Directory of C:\OS\LAB\LAB1

27/09/2020  19:15    <DIR>          .
27/09/2020  19:15    <DIR>          ..
10/09/2019  16:19             10.235 bochsout.txt
15/12/2008  16:17             1.628 bochsrc.bsrc
14/12/2008  12:02             14.365 boot.asm
27/09/2020  19:00             512 boot.bin
16/09/2015  07:51             512 boots.bin
15/12/2008  08:47              78 dosfp.bat
27/09/2020  19:15          1.474.560 floppy.img
14/12/2008  11:45             7.966 kernel.asm
27/09/2020  18:56              0 M.txt
15/12/2008  16:21             227 Makefile
15/12/2008  12:20              44 s.bat
                11 File(s)      1.510.127 bytes
                2 Dir(s)      76.466.761.728 bytes free

C:\OS\LAB\LAB1>
```

15. Menjalankan PC-Simulator dari 'Command Prompt' dengan perintah 'DosFp'

```
Bochs for Windows - Console
What should I name the image?
[a.img] floppy.img

Writing: [] Done.

I wrote 1474560 bytes to floppy.img.

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

Press any key to continue

C:\OS\LAB\LAB1>dir
Volume in drive C is OS
Volume Serial Number is CCB5-17E3

Directory of C:\OS\LAB\LAB1

27/09/2020  19:15    <DIR>          .
27/09/2020  19:15    <DIR>          ..
10/09/2019  16:19             10.235 bochsout.txt
15/12/2008  16:17             1.628 bochsrc.bsrc
14/12/2008  12:02             14.365 boot.asm
27/09/2020  19:00             512 boot.bin
16/09/2015  07:51             512 boots.bin
15/12/2008  08:47              78 dosfp.bat
27/09/2020  19:15          1.474.560 floppy.img
14/12/2008  11:45             7.966 kernel.asm
27/09/2020  18:56              0 M.txt
15/12/2008  16:21             227 Makefile
15/12/2008  12:20              44 s.bat
                11 File(s)      1.510.127 bytes
                2 Dir(s)      76.466.761.728 bytes free

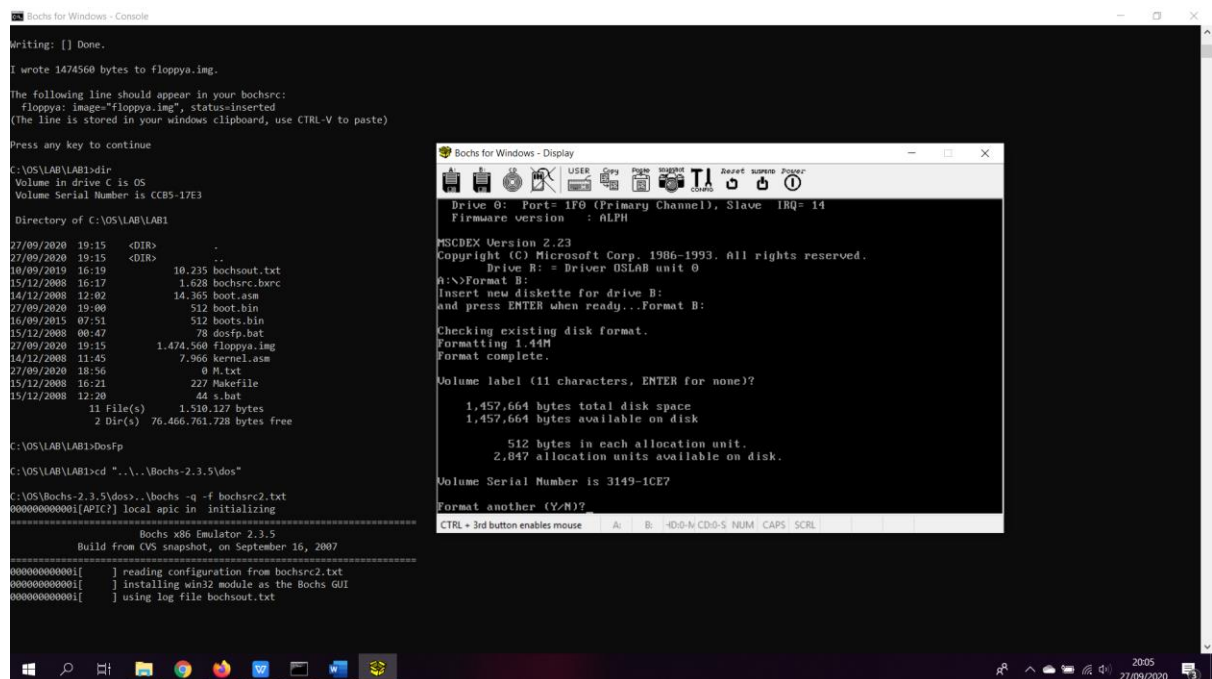
C:\OS\LAB\LAB1>dosfp
C:\OS\LAB\LAB1>cd "..\..\Bochs-2.3.5\dos"
C:\OS\Bochs-2.3.5\dos>..bochs -q -f bochsrc2.txt
0000000000000000[APIC?] local apic in initializing
*****
Bochs x86 Emulator 2.3.5
Build from CVS snapshot, on September 16, 2007
*****
0000000000000000[ ] reading configuration from bochsrc2.txt
0000000000000000[ ] installing win32 module as the Bochs GUI
0000000000000000[ ] using log file bochsout.txt

Bochs for Windows - Display
CD-ROM Device Driver for IDE (Four Channels Supported)
(C)Copyright Oak Technology Inc. 1993-1996
Driver Version : 0340
Device Name : OSLAB
Transfer Mode : Programmed I/O
Drive 0: Port= 1F0 (Primary Channel), Slave IRQ= 14
Firmware version : ALPH

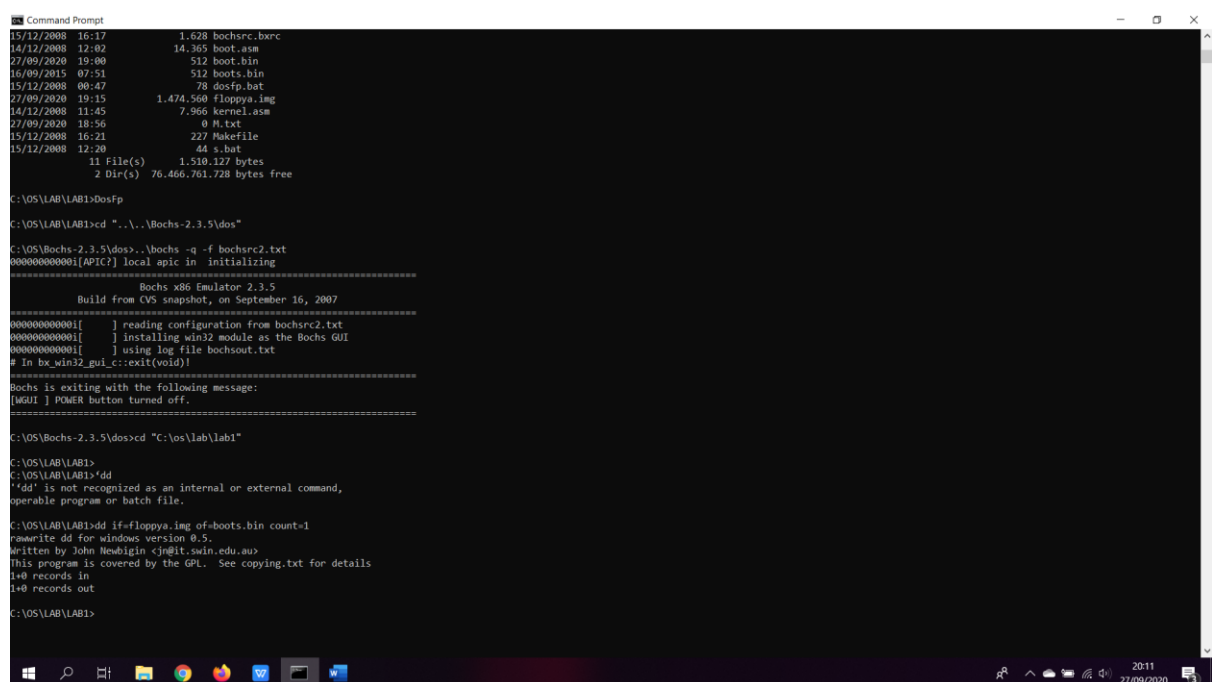
MSCDEx Version 2.23
Copyright (C) Microsoft Corp. 1986-1993. All rights reserved.
Drive R: = Driver OSLAB unit 0
A:\>_

CTRL + 3rd button enables mouse  AL  BL  <0>N CD<0>S NUMF CAPS SCRL
```


16. Selanjutnya dari prompt 'A:>' ketikan 'Format B:' [2x]



17. Menutup kembali PC-Simulator dengan klik pada tombol power, lalu copy 512 byte data bootsektor ke dalam sebuah file terpisah, caranya dari 'Command Prompt' ketik 'dd if=floppya.img of=boots.bin count=1'



18. Mengetik perintah 'tdump boots. bin'<ENTER>

```
Command Prompt
C:\OS\LAB\LAB1>dd
'dd' is not recognized as an internal or external command,
operable program or batch file.

C:\OS\LAB\LAB1>dd if=floppya.img of=boots.bin count=1
newwrite dd for windows version 0.5.
Written by John Newbigin <jn@it.swin.edu.au>
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1+0 records in
1+0 records out

C:\OS\LAB\LAB1>tdump boots.bin
Turbo Dump Version 5.0.16.12 Copyright (c) 1988, 2000 Inprise Corporation
Display of File BOOTS.BIN

000000: EB 3C 90 4D 53 57 49 4E 34 2E 31 00 02 01 01 00 <.MSMH4.1.....
000010: 02 E0 00 00 00 F0 09 00 12 00 02 00 00 00 00 00 ...@.....
000020: 00 00 00 00 00 00 29 E7 1C 49 31 4E 4F 20 4E 41 .....IINO NA
000030: 4D 45 20 20 20 20 46 41 54 31 32 20 20 33 C9 ME FAT12 3.
000040: BE D1 0C FC 7B 16 07 BD 78 00 C5 76 00 1E 56 16 ...X.v.V.
000050: 55 BF 22 05 89 7E 00 89 4E 02 B1 0B FC F3 A4 06 U...N.....
000060: 1F BD 00 7C C6 45 FE 0F 38 4E 24 7D 20 88 C1 99 ...[E.BN$]...
000070: E8 7E 01 83 EB 3A 66 A1 1C 7C 66 3B 07 8A 57 FC ...f;f;W.
000080: 75 06 80 CA 02 8B 56 02 80 C3 10 73 ED 33 C9 FE u...V...s.3..
000090: 06 08 7D 8A 46 10 98 F7 66 16 03 46 1C 13 56 1E ..)f...f..V.
0000A0: 03 46 0E 13 D1 8B 76 11 60 89 46 FC 89 56 FE B8 ...v'f..V..
0000B0: 20 00 F7 E6 8B 5E 0B 03 C3 48 F7 F3 01 46 FC 11 ...H...F..
0000C0: 4E FE 61 BF 00 07 E8 28 01 72 3E 38 2D 74 17 60 N.a....r8-t."
0000D0: B1 0B BE D8 7D F3 A6 G1 74 3D 4E 74 09 83 C7 20 ...).at=ht...
0000E0: 3B FB 72 E7 EB D0 FE 0E 08 7D 7B A7 BE 7F 7D AC ...f.....)[...].
0000F0: 98 03 F0 AC 98 40 74 0C 48 74 13 B4 BE B8 07 00 ...@t.HT.....
000100: CD 10 EB EF BE 82 7D EB E6 BE 80 7D EB E1 CD 16 .....}.....
000110: 5E 1F 66 BF 04 CD 19 BE 81 7D 8B 7D 1A 8D 45 FE ^f.....}...E.
000120: 0A 4E 00 F7 E1 03 46 FC 13 56 FE B1 04 EB C2 00 ...f..F.V.....
000130: 72 D7 EA 00 02 70 08 52 50 06 53 6A 01 6A 10 91 r...p.RP.Sj;...
000140: 8B 46 18 A2 26 05 96 92 33 D2 F7 F6 91 F7 F6 42 ...f..s.....B
000150: 87 CA F7 76 1A 8A F2 8A E8 C0 CC 02 0A CC B8 01 ...v.....
000160: 02 00 7E 02 0E 75 04 B4 42 8B FA 8A 56 24 CD 13 ...u..B...V$..
000170: 61 61 72 0A 40 75 01 42 03 5E 08 49 75 77 C3 03 aae-Bu.B^Iuw..
000180: 18 01 27 00 0A 49 6E 76 61 6C 69 64 20 73 79 73 ...Invalid sys
000190: 74 65 6D 20 64 69 73 6B FF 00 0A 44 69 73 6B 20 tem disk...Disk
0001A0: 49 2F 4F 20 65 72 72 6F 72 FF 00 0A 52 65 70 6C I/O error...Repl
0001B0: 61 63 65 20 74 68 65 20 6A 69 73 6B 2C 20 61 6E ace the disk, an
0001C0: 64 20 74 68 65 6E 20 70 72 65 73 73 20 61 6E 79 d then press any
0001D0: 20 68 65 79 00 0A 00 00 49 4F 20 20 20 20 20 key...10
0001E0: 53 59 53 4D 53 44 4F 53 20 20 20 53 59 53 7F 01 SYMSDOS SYS..
0001F0: 00 41 B8 00 07 60 66 6A 00 E9 3B FF 00 00 55 AA .A...fj;...U.

C:\OS\LAB\LAB1>
```

19. Melihat isi file 's.bat' dengan perintah 'type s.bat'<ENTER>

```
Command Prompt
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

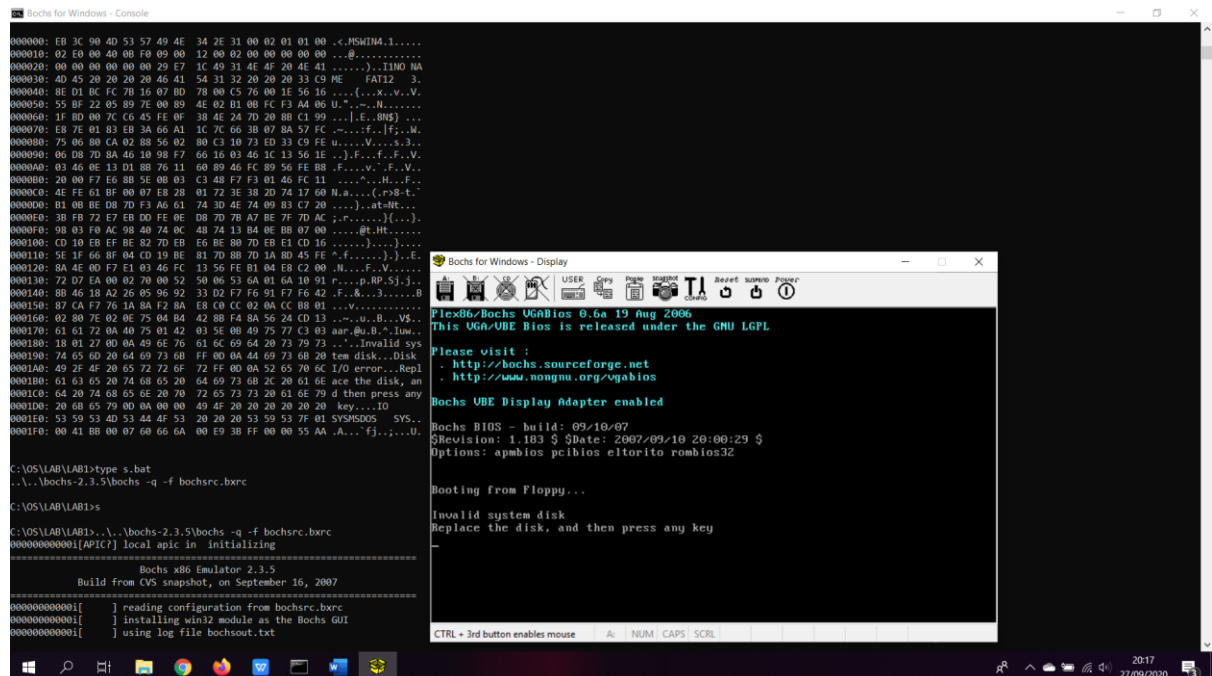
C:\OS\LAB\LAB1>tdump boots.bin
Turbo Dump Version 5.0.16.12 Copyright (c) 1988, 2000 Inprise Corporation
Display of File BOOTS.BIN

000000: EB 3C 90 4D 53 57 49 4E 34 2E 31 00 02 01 01 00 <.MSMH4.1.....
000010: 02 E0 00 00 00 F0 09 00 12 00 02 00 00 00 00 00 ...@.....
000020: 00 00 00 00 00 00 29 E7 1C 49 31 4E 4F 20 4E 41 .....IINO NA
000030: 4D 45 20 20 20 20 46 41 54 31 32 20 20 33 C9 ME FAT12 3.
000040: BE D1 0C FC 7B 16 07 BD 78 00 C5 76 00 1E 56 16 ...X.v.V.
000050: 55 BF 22 05 89 7E 00 89 4E 02 B1 0B FC F3 A4 06 U...N.....
000060: 1F BD 00 7C C6 45 FE 0F 38 4E 24 7D 20 88 C1 99 ...[E.BN$]...
000070: E8 7E 01 83 EB 3A 66 A1 1C 7C 66 3B 07 8A 57 FC ...f;f;W.
000080: 75 06 80 CA 02 8B 56 02 80 C3 10 73 ED 33 C9 FE u...V...s.3..
000090: 06 08 7D 8A 46 10 98 F7 66 16 03 46 1C 13 56 1E ..)f...f..V.
0000A0: 03 46 0E 13 D1 8B 76 11 60 89 46 FC 89 56 FE B8 ...v'f..V..
0000B0: 20 00 F7 E6 8B 5E 0B 03 C3 48 F7 F3 01 46 FC 11 ...H...F..
0000C0: 4E FE 61 BF 00 07 E8 28 01 72 3E 38 2D 74 17 60 N.a....r8-t."
0000D0: B1 0B BE D8 7D F3 A6 G1 74 3D 4E 74 09 83 C7 20 ...).at=ht...
0000E0: 3B FB 72 E7 EB D0 FE 0E 08 7D 7B A7 BE 7F 7D AC ...f.....)[...].
0000F0: 98 03 F0 AC 98 40 74 0C 48 74 13 B4 BE B8 07 00 ...@t.HT.....
000100: CD 10 EB EF BE 82 7D EB E6 BE 80 7D EB E1 CD 16 .....}.....
000110: 5E 1F 66 BF 04 CD 19 BE 81 7D 8B 7D 1A 8D 45 FE ^f.....}...E.
000120: 0A 4E 00 F7 E1 03 46 FC 13 56 FE B1 04 EB C2 00 ...f..F.V.....
000130: 72 D7 EA 00 02 70 08 52 50 06 53 6A 01 6A 10 91 r...p.RP.Sj;...
000140: 8B 46 18 A2 26 05 96 92 33 D2 F7 F6 91 F7 F6 42 ...f..s.....B
000150: 87 CA F7 76 1A 8A F2 8A E8 C0 CC 02 0A CC B8 01 ...v.....
000160: 02 00 7E 02 0E 75 04 B4 42 8B FA 8A 56 24 CD 13 ...u..B...V$..
000170: 61 61 72 0A 40 75 01 42 03 5E 08 49 75 77 C3 03 aae-Bu.B^Iuw..
000180: 18 01 27 00 0A 49 6E 76 61 6C 69 64 20 73 79 73 ...Invalid sys
000190: 74 65 6D 20 64 69 73 6B FF 00 0A 44 69 73 6B 20 tem disk...Disk
0001A0: 49 2F 4F 20 65 72 72 6F 72 FF 00 0A 52 65 70 6C I/O error...Repl
0001B0: 61 63 65 20 74 68 65 20 6A 69 73 6B 2C 20 61 6E ace the disk, an
0001C0: 64 20 74 68 65 6E 20 70 72 65 73 73 20 61 6E 79 d then press any
0001D0: 20 68 65 79 00 0A 00 00 49 4F 20 20 20 20 20 key...10
0001E0: 53 59 53 4D 53 44 4F 53 20 20 20 53 59 53 7F 01 SYMSDOS SYS..
0001F0: 00 41 B8 00 07 60 66 6A 00 E9 3B FF 00 00 55 AA .A...fj;...U.

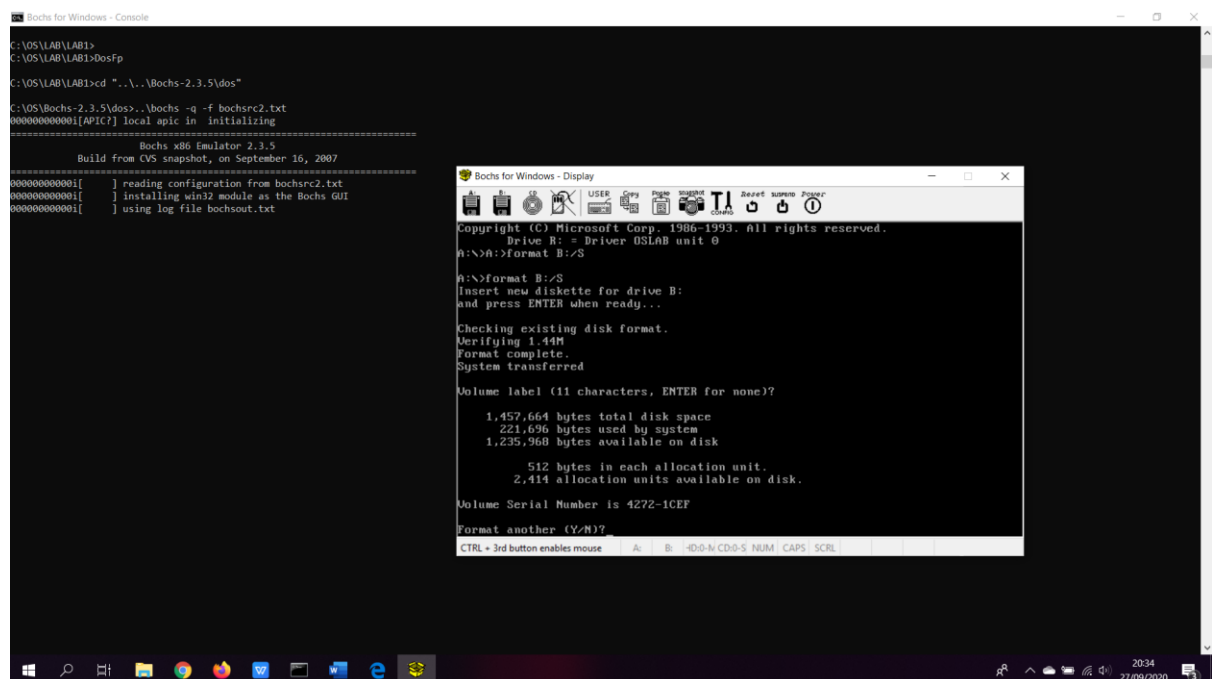
C:\OS\LAB\LAB1>type s.bat
...\.bochs-2.3.5\bochs -q -f bochs.rc.bxrc

C:\OS\LAB\LAB1>
```

20. Selanjutnya memasukkan perintah 's', akan ditampilkan windows 'Bochs for windows – display' yang sedang melakukan proses 'booting' namun tidak berhasil karena tidak menemukan diskboot



21. Memanggil 'DosFp'. Pada windows 'Bochs' masukan perintah 'A:>format B:/S' <ENTER>



22. Mematikan PC-Simulator (klik tombol Power Off), ketik 'S' <ENTER>

