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**NIM : L200180015**

**KELAS : A**

```
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C:\Users\ACER>cd..

C:\Users>cd..

C:\>cd os..

C:\OS>dir
Volume in drive C has no label.
Volume Serial Number is 72B0-B1E6

Directory of C:\OS

03/09/2015  13.42  <DIR>      .
03/09/2015  13.42  <DIR>      ..
07/09/2016  11.34  <DIR>      Bochs-2.3.5
03/09/2015  13.42  <DIR>      Dev-Cpp
17/12/2008  00.08             1.096.291 i386.pdf
03/09/2015  13.42  <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)    87.164.936.192 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 Makefile

C:\OS\LAB\LAB1>nasm boot.asm -o boot.bin -f bin

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

boot.asm - Notepad

File Edit Format View Help

```
; *****  
; LAB-1 : boot-strap loader - real mode  
; untuk memindahkan file OS dari floppy disk format DOS FAT12  
; *****  
  
; 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       dw 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              dd 0xFFFFFFFF  
    VolumeLabel           db "QUASI  BOOT"  
    SystemID              db "FAT12  "
```

<

```
#
# 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
```

```
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
Unknown command command
dd [bs=SIZE] [count=BLOCKS] [if=FILE] [of=FILE] [seek=BLOCKS] [skip=BLOCKS] [--size] [--list] [--progress]
SIZE and BLOCKS may have one of the following suffix:
k = 1024
M = 1048576
G = 1073741824
default block size (bs) is 512 bytes
skip specifies the starting offset of the input file (if)
seek specifies the starting offset of the output file (of)

C:\OS\LAB\LAB1>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\LAB1>dir
Volume in drive C has no label.
Volume Serial Number is 72B0-B1E6

Directory of C:\OS\LAB\LAB1

07/09/2016  11.41    <DIR>          .
07/09/2016  11.41    <DIR>          ..
16/12/2008  16.09           10,237 bochsout.txt
15/12/2008  16.17           1,628 bochsrc.bxrc
14/12/2008  12.02           14,365 boot.asm
11/09/2019  10.18             512 boot.bin
16/09/2015   07.51             512 boots.bin
15/12/2008   00.47              78 dosfp.bat
11/09/2019  10.18          1,474,560 floppya.img
14/12/2008  11.45             7,966 kernel.asm
15/12/2008  16.21             227 Makefile
15/12/2008  12.20              44 s.bat
            10 File(s)          1,510,129 bytes
            2 Dir(s)  87,164,596,224 bytes free
```

Bochs for Windows - Console

```
C:\OS\LAB\LAB1>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\LAB1>del floppya.img
```

```
C:\OS\LAB\LAB1>dir
Volume in drive C has no label.
Volume Serial Number is 72B0-B1E6
```

Directory of C:\OS\LAB\LAB1

```
11/09/2019  10.19  <DIR>      .
11/09/2019  10.19  <DIR>      ..
16/12/2008  16.09              10.237 bochsout.txt
15/12/2008  16.17              1.628 bochsrc.bxrc
14/12/2008  12.02             14.365 boot.asm
11/09/2019  10.18              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
15/12/2008  16.21             227 Makefile
15/12/2008  12.20              44 s.bat
                9 File(s)          35.569 bytes
                2 Dir(s)  87.166.070.784 bytes free
```

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

```
C:\OS\LAB>cd..
```

```
C:\OS>cd Bochs-2.3.5
```

```
C:\OS\Bochs-2.3.5>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

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

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\Bochs-2.3.5>cd..

C:\OS>cd lab..

C:\OS\LAB>cd lab1

C:\OS\LAB\LAB1>dir
Volume in drive C has no label.
Volume Serial Number is 72B0-B1E6

Directory of C:\OS\LAB\LAB1

11/09/2019  10.19  <DIR>      .
11/09/2019  10.19  <DIR>      ..
16/12/2008  16.09              10.237 bochsout.txt
15/12/2008  16.17              1.628 bochsrc.bxrc
14/12/2008  12.02             14.365 boot.asm
11/09/2019  10.18              512 boot.bin
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```
C:\OS>cd lab..

C:\OS\LAB>cd lab1

C:\OS\LAB\LAB1>dir
Volume in drive C has no label.
Volume Serial Number is 72B0-B1E6

Directory of C:\OS\LAB\LAB1

11/09/2019  10.19  <DIR>          .
11/09/2019  10.19  <DIR>          ..
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15/12/2008  16.17          1.628 bochsrc.bxrc
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14/12/2008  11.45          7.966 kernel.asm
15/12/2008  16.21          227 Makefile
15/12/2008  12.20          44 s.bat
                9 File(s)          35.569 bytes
                2 Dir(s)  87.166.070.784 bytes free

C:\OS\LAB\LAB1>s

C:\OS\LAB\LAB1>..\..\bochs-2.3.5\bochs -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 bochsout.txt
```

```
C:\OS>cd lab..

C:\OS\LAB>cd lab1

C:\OS\LAB\LAB1>dir
Volume in drive C has no label.
Volume Serial Number is 72B0-B1E6

Directory of C:\OS\LAB\LAB1

11/09/2019  10.19  <DIR>          .
11/09/2019  10.19  <DIR>          ..
16/12/2008  16.09          10.237 bochsout.txt
15/12/2008  16.17          1.628 bochsrc.bxrc
14/12/2008  12.02          14.365 boot.asm
11/09/2019  10.18          512 boot.bin
16/09/2015  07.51          512 boots.bin
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C:\OS\LAB\LAB1>s

C:\OS\LAB\LAB1>..\..\bochs-2.3.5\bochs -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 bochsout.txt

Bochs for Windows - Display
=====
Panic! This is a fatal error.
Please report this to the Bochs developers.
Device: [BIOS]
Message: No bootable device.
Bochs: Continue
Continue and don't ask again
Abort (dump core)
OK Cancel
Bochs: 0:00:29 $
ns32

Booting from Floppy...
Boot from Floppy failed: could not read the boot disk
FATAL: No bootable device.

Build fr
=====
0000000000i[      ]
0000000000i[      ]
0000000000i[      ]

CTRL + Lbutton + Rbutton enables mo  A NUM CAPS SCRL
```