LAPORAN PRAKTIKUM
SISTEM OPERASI

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TAHUN AJARAN 2021/2022

Lembar Kerja Praktikum

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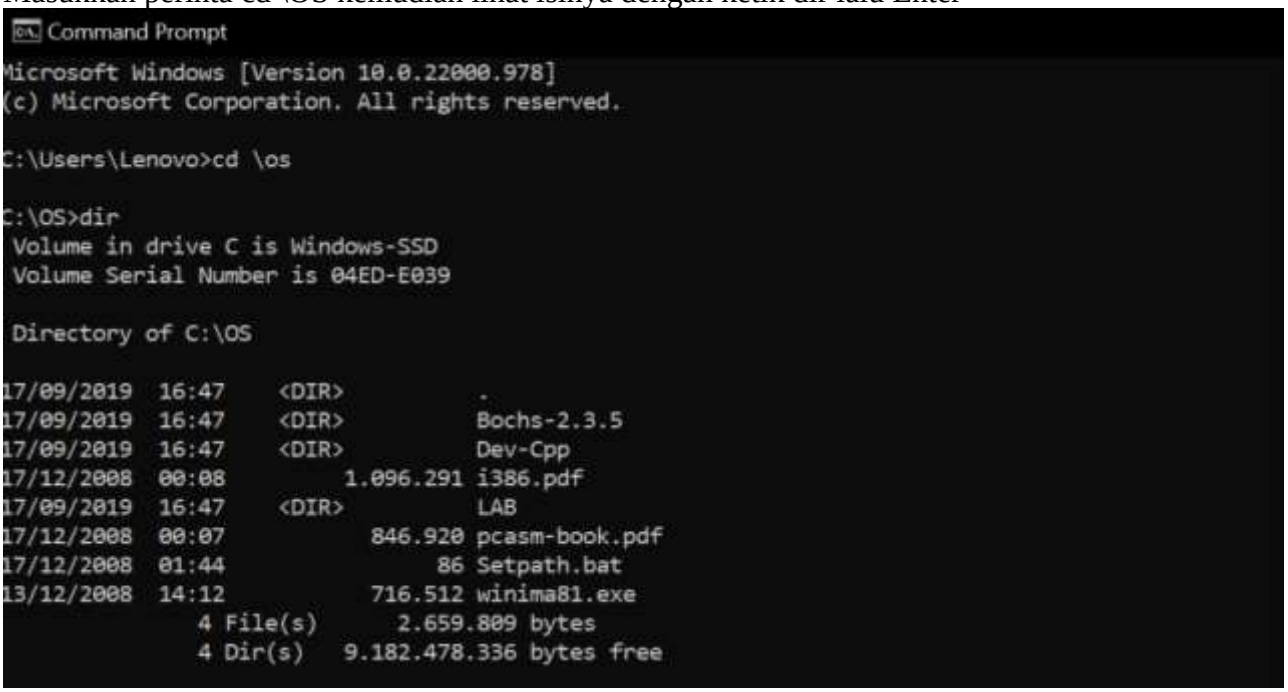
Nama Asisten	: -	Tanda Tangan :
	-	
Tanggal Praktikum	: 13/09/2022	

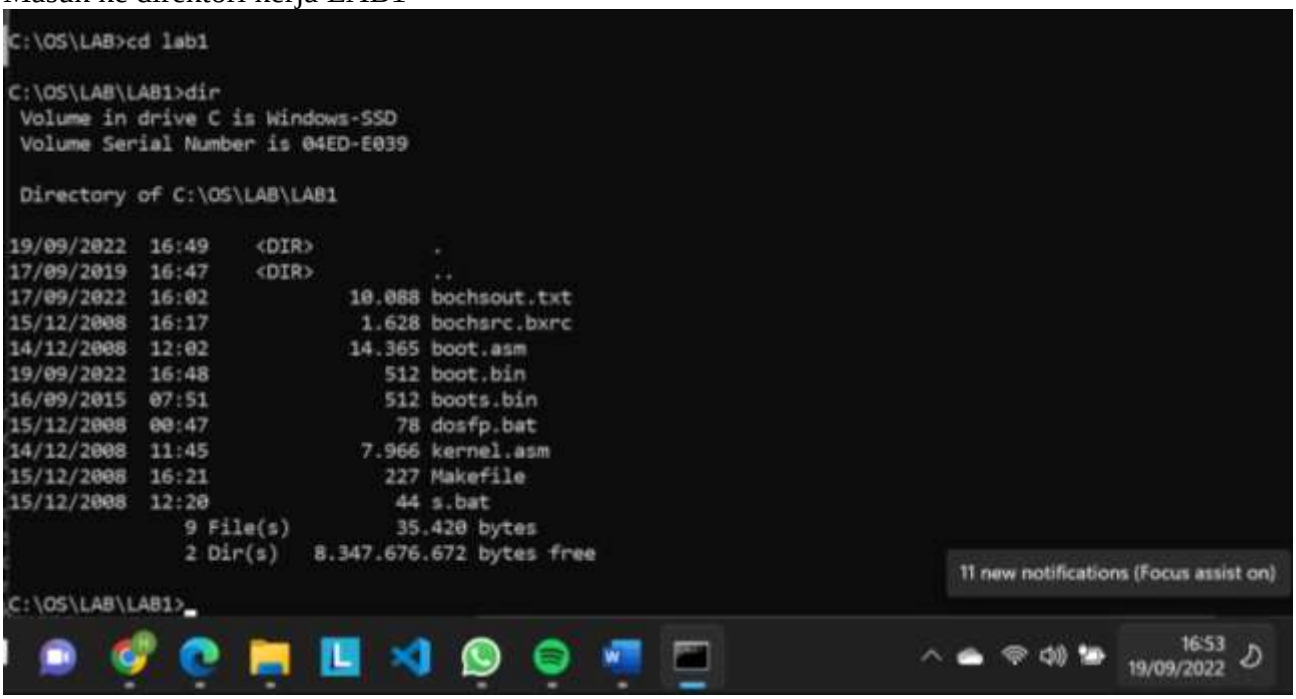
Langkah Kerja
Menuju ke Direktori Kerja

1. Masukkan perinta cd \OS kemudian lihat isinya dengan ketik dir lalu Enter

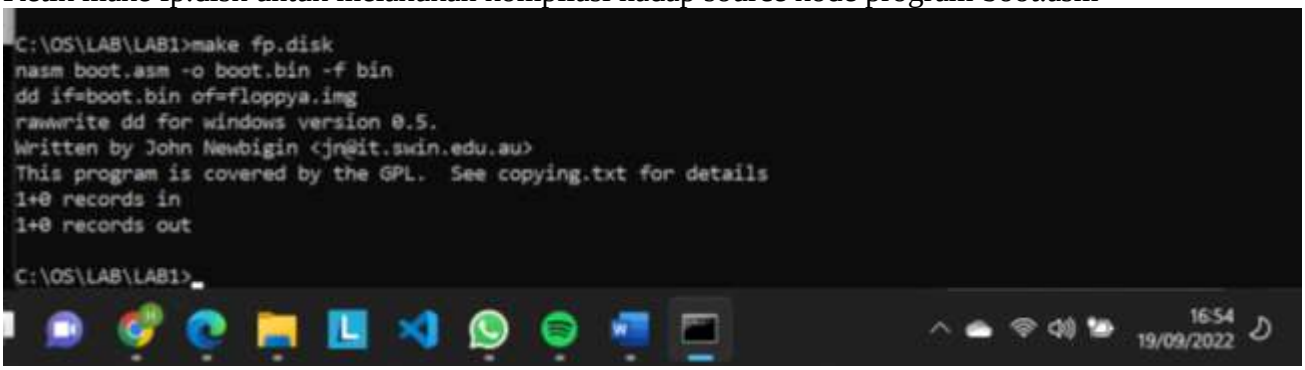


2. Jalankan file sethpath

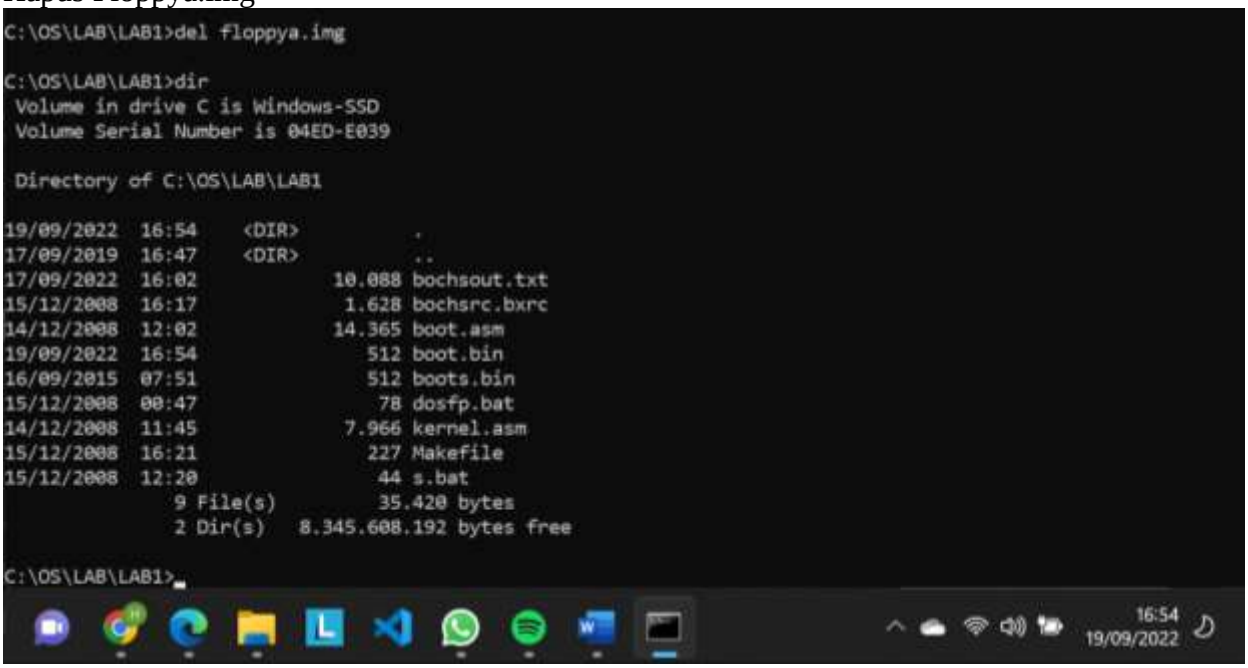
3. Masuk ke direktori kerja LAB1



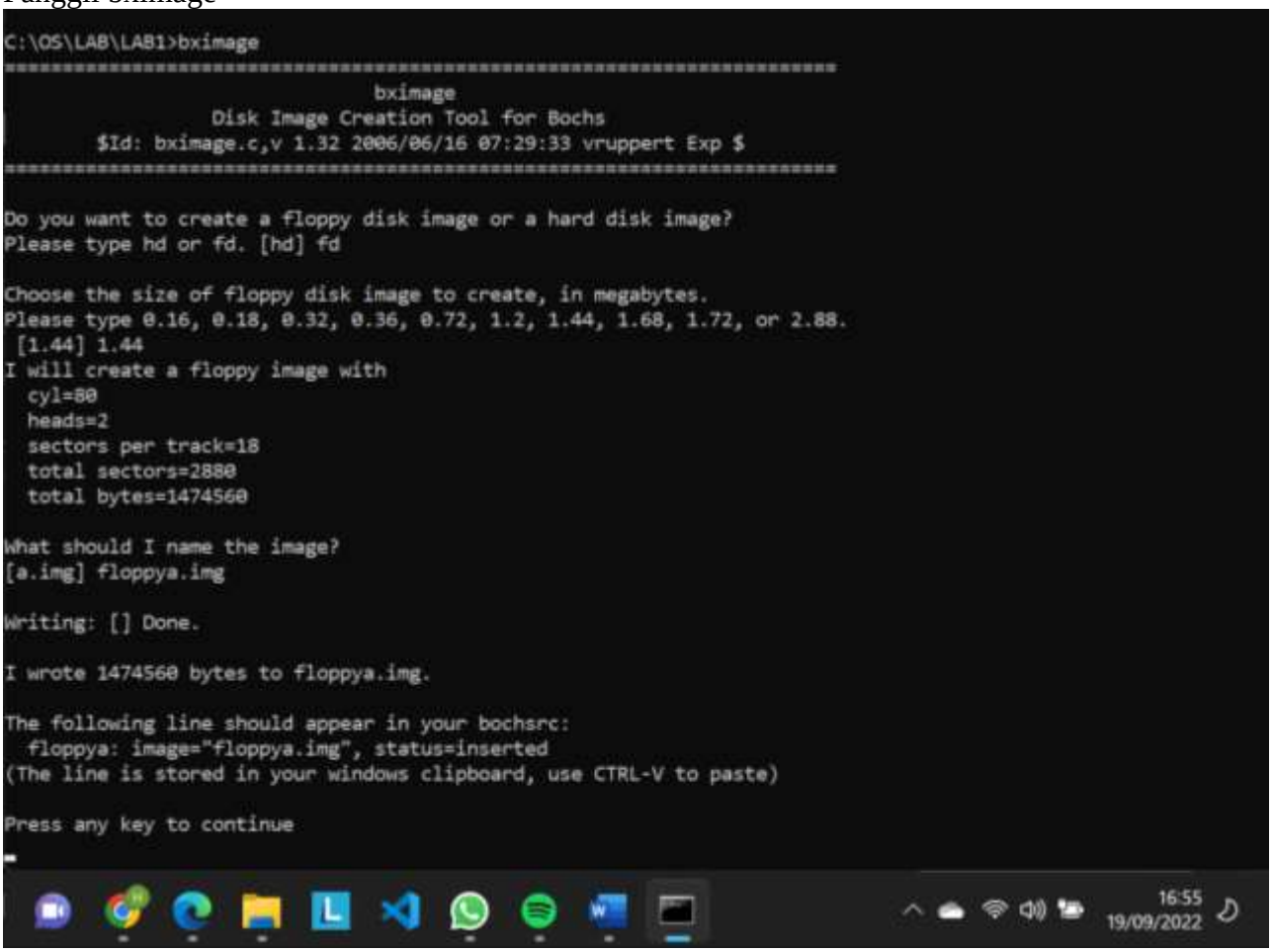
4. Ketik make fp.disk untuk melakukan kompilasi hadap source kode program boot.asm



5. Hapus Floppya.img



6. Panggil bximage



7. Jalankan pc simulator dengan perintah Dos.Fp

8. Tutup Kembali simulator dengan klik tombol power
9. Ketik tdump boots.bin untuk memindahkan data pada file boots.bin kedalam memori kerja tdump

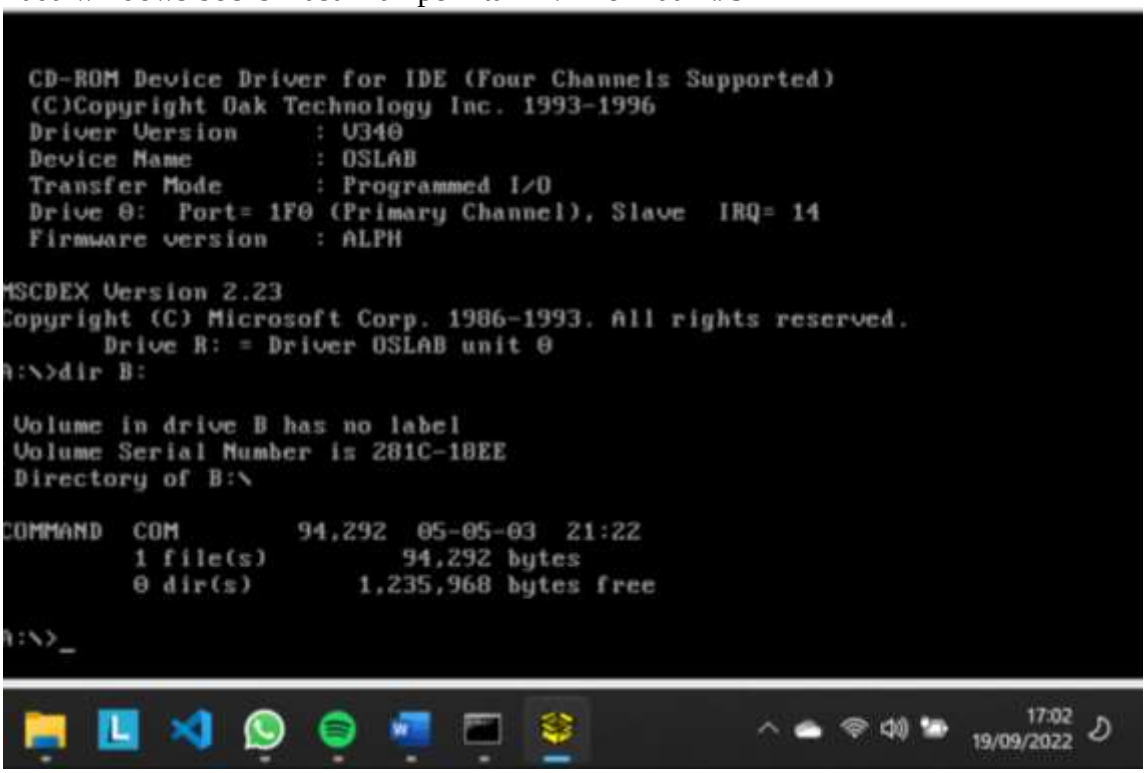
```
C:\OS\LAB\LAB1>tdump boots.bin
Turbo Dump  Version 5.0.16.12 Copyright (c) 1988, 2000 Inprise Corporation
                    Display of File BOOTS.BIN

000000: EB 3C 90 4D 53 57 49 4E  34 2E 31 00 02 01 01 00 .<.MSWIN4.1.....
000010: 02 E0 00 40 0B F0 09 00  12 00 02 00 00 00 00 00 ...@............
000020: 00 00 00 00 00 00 29 E7  0F 15 2C 4E 4F 20 4E 41 ......)...,NO NA
000030: 4D 45 20 20 20 20 46 41  54 31 32 20 20 20 33 C9 ME    FAT12   3.
000040: 8E D1 BC 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 8B C1 99 ...|.E..8N$} ...
000070: E8 7E 01 83 EB 3A 66 A1  1C 7C 66 3B 07 8A 57 FC .~...:f..|f;..W.
000080: 75 06 80 CA 02 88 56 02  80 C3 10 73 ED 33 C9 FE u.....V....s.3..
000090: 06 D8 7D 8A 46 10 98 F7  66 16 03 46 1C 13 56 1E ..}.F...f..F..V.
0000A0: 03 46 0E 13 D1 8B 76 11  60 89 46 FC 89 56 FE B8 .F....v.`.F..V..
0000B0: 20 00 F7 E6 8B 5E 0B 03  C3 48 F7 F3 01 46 FC 11  ....^...H...F..
0000C0: 4E FE 61 BF 00 07 E8 28  01 72 3E 38 2D 74 17 60 N.a....(.r>8-t.`
0000D0: B1 0B BE D8 7D F3 A6 61  74 3D 4E 74 09 83 C7 20 ....}..at=Nt...
0000E0: 3B FB 72 E7 EB DD FE 0E  D8 7D 7B A7 BE 7F 7D AC ;.r......}{...}.
0000F0: 98 03 F0 AC 98 40 74 0C  48 74 13 B4 0E BB 07 00 .....@t.Ht......
000100: CD 10 EB EF BE 82 7D EB  E6 BE 80 7D EB E1 CD 16 ......}....}....
000110: 5E 1F 66 8F 04 CD 19 BE  81 7D 8B 7D 1A 8D 45 FE ^.f......}.}..E.
000120: 8A 4E 0D F7 E1 03 46 FC  13 56 FE B1 04 E8 C2 00 .N....F..V......
000130: 72 D7 EA 00 02 70 00 52  50 06 53 6A 01 6A 10 91 r....p.RP.Sj.j..
000140: 8B 46 18 A2 26 05 96 92  33 D2 F7 F6 91 F7 F6 42 .F..&...3......B
000150: 87 CA F7 76 1A 8A F2 8A  E8 C0 CC 02 0A CC B8 01 ...v............
000160: 02 80 7E 02 0E 75 04 B4  42 8B F4 8A 56 24 CD 13 ..~..u..B...V$..
000170: 61 61 72 0A 40 75 01 42  03 5E 0B 49 75 77 C3 03 aar.@u.B.^.Iuw..
000180: 18 01 27 0D 0A 49 6E 76  61 6C 69 64 20 73 79 73 ..'..Invalid sys
000190: 74 65 6D 20 64 69 73 6B  FF 0D 0A 44 69 73 6B 20 tem disk...Disk
0001A0: 49 2F 4F 20 65 72 72 6F  72 FF 0D 0A 52 65 70 6C I/O error...Repl
0001B0: 61 63 65 20 74 68 65 20  64 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 6B 65 79 0D 0A 00 00  49 4F 20 20 20 20 20 20  key....IO
0001E0: 53 59 53 4D 53 44 4F 53  20 20 20 53 59 53 7F 01 SYSMSDOS   SYS..
0001F0: 00 41 BB 00 07 60 66 6A  00 E9 3B FF 00 00 55 AA .A...`fj..;...U.
```

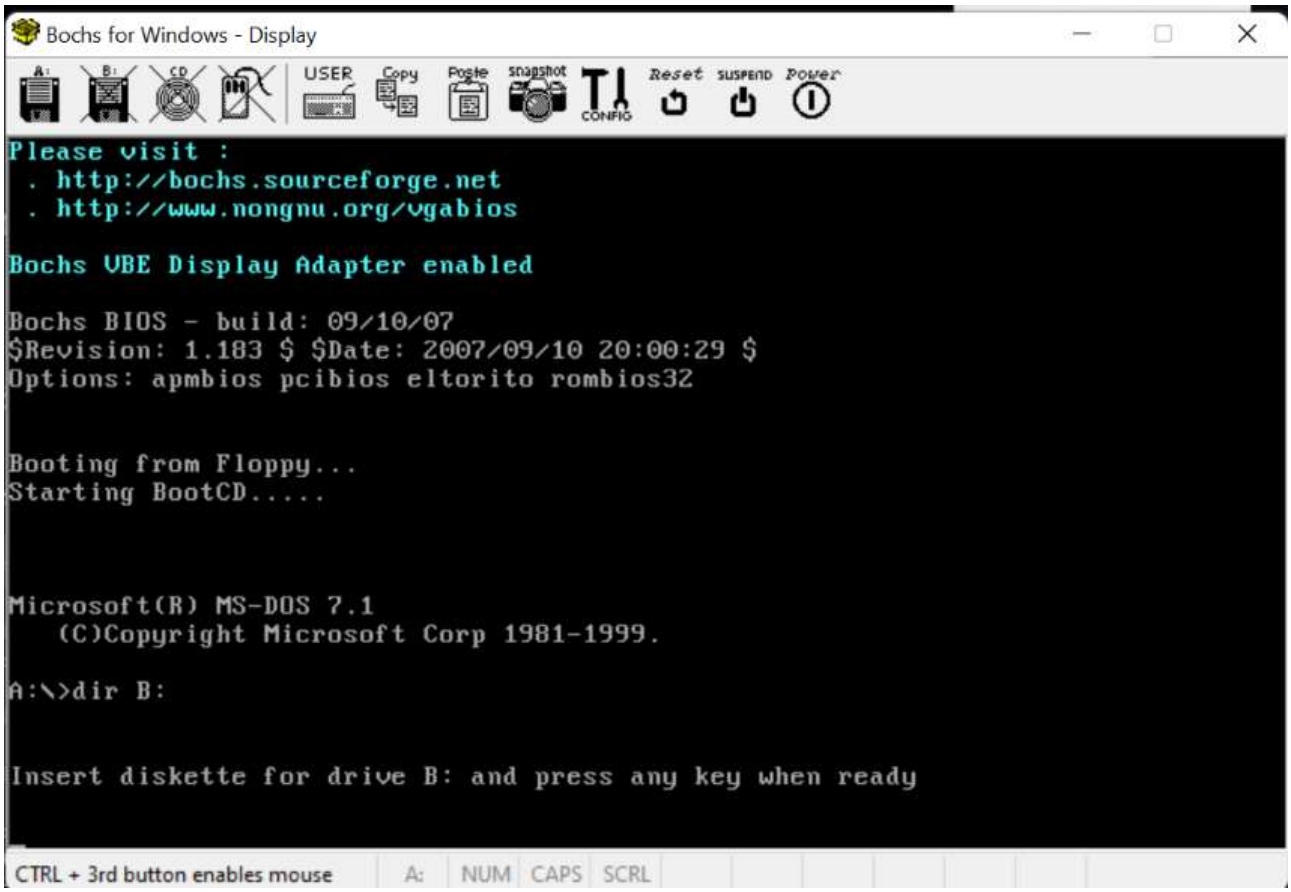
10. S.bat berisi dua baris perintah untuk memanggil PC simulator

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

11. Pada windows bochs masukkan perintah A:> Format B:/S



12. Terakhir matikan simulator



1. Apa yang dimaksud dengan kode "ASCII"

Kode ASCII (American Standard ode for Information Interchange) merupakan seperangkatkode digital yang mewakili huruf, angka, dan simbol lainnya, yang digunakan sebagai formatstandar dalam transfer teks antar computer.

Contohnya, karakter "a" memiliki kode ASCII 97, dan karakter "A" memiliki kode ASCII 65

Buatlah table kode ASCII standar dengan format angka decimal, binary dan heksadesimal serta karakter dan symbol yang dikodekan.

Desimal	Heksadesimal	Binary	Simbol	Keterangan
0	00	00000000	NUL	Null
1	01	00000001	SOH	Start of Header
2	02	00000010	STX	Start of Text
3	03	00000011	ETX	End of Text
4	04	00000100	EOT	End Of Transmission
5	05	00000101	ENQ	Enquiry
6	06	00000110	ACK	Acknowledge
7	07	00000111	BEL	Bell
8	08	00001000	BS	Backspace
9	09	00001001	HT	Horizontal Tab
10	0A	00001010	LF	Line Feed
11	0B	00001011	VT	Vertical Tab
12	0C	00001100	FF	Form Feed
13	0D	00001101	CR	Carriage Return
14	0E	00001110	SO	Shift Out
15	0F	00001111	SI	Shift In
16	10	00010000	DLE	Data Link Escape

17	11	00010001	DC1	Device Control 1
18	12	00010010	DC2	Device Control 2
19	13	00010011	DC3	Device Control 3
20	14	00010100	DC4	Device Control 4
21	15	00010101	NAK	Negative Acknowledge
22	16	00010110	SYN	Synchronize
23	17	00010111	ETB	End of Transmission Block
24	18	00011000	CAN	Cancel
25	19	00011001	EM	End of Medium
26	1A	00011010	SUB	Substitute
27	1B	00011011	ESC	Escape
28	1C	00011100	FS	File Separator
29	1D	00011101	GS	Group Separator
30	1E	00011110	RS	Record Separator
31	1F	00011111	US	Unit Separator
32	20	00100000	SPACE	Space
33	21	00100001	!	Exclamation Mark
34	22	00100010	“	Double Quote
35	23	00100011	#	Number
36	24	00100100	$	Dollar Sign
37	25	00100101	%	Percent
38	26	00100110	&	Ampersand
39	27	00100111	‘	Single Quote
40	28	00101000	(	Left Parenthesis
41	29	00101001	)	Right Parenthesis
42	2A	00101010	*	Asterisk
43	2B	00101011	+	Plus
44	2C	00101100	,	Comma
45	2D	00101101	-	Minus
46	2E	00101110	.	Period
47	2F	00101111	/	Slash

48	30	00110000	0	Zero
49	31	00110001	1	One
50	32	00110010	2	Two
51	33	00110011	3	Three
52	34	00110100	4	Four
53	35	00110101	5	Five
54	36	00110110	6	Six
55	37	00110111	7	Seven
56	38	00111000	8	Eight
57	39	00111001	9	Nine
58	3A	00111010	:	Colon
59	3B	00111011	;	Semicolon
60	3C	00111100	<	Less Than
61	3D	00111101	=	Equality Sign
62	3E	00111110	>	Greater Than
63	3F	00111111	?	Question Mark
64	40	01000000	@	At Sign
65	41	01000001	A	Capital A
66	42	01000010	B	Capital B
67	43	01000011	C	Capital C
68	44	01000100	D	Capital D
69	45	01000101	E	Capital E
70	46	01000110	F	Capital F
71	47	01000111	G	Capital G
72	48	01001000	H	Capital H
73	49	01001001	I	Capital I
74	4A	01001010	J	Capital J
75	4B	01001011	K	Capital K
76	4C	01001100	L	Capital L
77	4D	01001101	M	Capital M
78	4E	01001110	N	Capital N

79	4F	01001111	O	Capital O
80	50	01010000	P	Capital P
81	51	01010001	Q	Capital Q
82	52	01010010	R	Capital R
83	53	01010011	S	Capital S
84	54	01010100	T	Capital T
85	55	01010101	U	Capital U
86	56	01010110	V	Capital V
87	57	01010111	W	Capital W
88	58	01011000	X	Capital X
89	59	01011001	Y	Capital Y
90	5A	01011010	Z	Capital Z
91	5B	01011011	[	Left Square Breacket
92	5C	01011100	\	Blacklash
93	5D	01011101	]	Right Square Bracket
94	5E	01011110	^	Caret / Circumflex
95	5F	01011111	_	Underscore
96	60	01100000	`	Greve / Accent
97	61	01100001	a	Small a
98	62	01100010	b	Small b
99	63	01100011	c	Small c
100	64	01100100	d	Small d
101	65	01100101	e	Small e
102	66	01100110	f	Small f
103	67	01100111	g	Small g
104	68	01101000	h	Small h
105	69	01101001	i	Small I
106	6A	01101010	j	Small j
107	6B	01101011	k	Small k
108	6C	01101100	l	Small l
109	6D	01101101	m	Small m

110	6E	01101110	n	Small n
111	6F	01101111	o	Small o
112	70	01110000	p	Small p
113	71	01110001	q	Small q
114	72	01110010	r	Small r
115	73	01110011	s	Small s
116	74	01110100	t	Small t
117	75	01110101	u	Small u
118	76	01110110	v	Smallv
119	77	01110111	w	Small w
120	78	01111000	x	Small x
121	79	01111001	y	Small y
122	7A	01111010	z	Small z
123	7B	01111011	{	Left Curly Bracket
124	7C	01111100	|	Vertical Bar
125	7D	01111110	}	Right Curly Bracket
126	7E	01111110	~	Tilde
127	7F	01111111	DEL	Delete

2. Carilah daftar perintah bahasa assembly untuk mesin intel keluarga x86 lengkap.

3. Assembly Directive	**Keterangan**
EQU	Pendefinisian konstanta
DB	Pendefinisian data dengan ukuran satuan 1 byte
DW	Pendefinisian data dengan ukuran satuan 1 word
DBIT	Pendefinisian data dengan ukuran satuan 1 bit
DS	Pemesanan tempat penyimpanan data di RAM
ORG	Inisialisasi alamat mulai program
END	Penanda akhir program
CSEG	Penanda penempatan di code segment
XSEG	Penanda penempatan di external data segment
DSEG	Penanda penempatan di internal direct data segment

ISEG	Penanda penempatan di internal indirect data segment
BSEG	Penanda penempatan di bit data segment
CODE	Penanda mulai pendefinisian program
XDATA	Pendefinisian external data
DATA	Pendefinisian internal direct data
IDATA	Pendefinisian internal indirect data
BIT	Pendefinisian data bit
#INCLUDE	Mengikutsertakan file program lain

Assembly Instruksi	**Keterangan**
ACALL	Absolute Call
ADD	Add
ADDC	Add with Carry
AJMP	Absolute Jump
ANL	AND Logic
CJNE	Compare and Jump if Not Equal
CLR	Clear
CPL	Complement
DA	Decimal Adjust
DEC	Decrement
DIV	Divide
DJNZ	Decrement and Jump if Not Zero
INC	Increment
JB	Jump if Bit Set
JBC	Jump if Bit Set and Clear Bit
JC	Jump if Carry Set
JMP	Jump to Address
JNB	Jump if Not Bit Set
JNC	Jump if Carry Not Set
JNZ	Jump if Accumulator Not Zero
JZ	Jump if Accumulator Zero

LCALL	Long Call
LJMP	Long Jump
MOV	Move from Memory
MOVC	Move from Code Memory
MOVX	Move from Extended Memory
MUL	Multiply
NOP	No Operation
ORL	OR Logic
POP	Pop Value From Stack
PUSH	Push Value Onto Stack
RET	Return From Subroutine
RETI	Return From Interrupt
RL	Rotate Left
RLC	Rotate Left through Carry
RR	Rotate Right
RRC	Rotate Right through Carry
SETB	Set Bit
SJMP	Short Jump
SUBB	Subtract With Borrow
SWAP	Swap Nibbles
XCH	Exchange Bytes
XCHD	Exchange Digits
XRL	Exclusive OR Logic