

TUGAS 3

NAMA : HASAN ALI
NIM : L200180077
KELAS : B

1. Tabel pemetaan memori pada PC

start	end	size	type	description
Low Memory (the first MiB)				
0x00000000	0x000003FF	1 KiB	RAM - partially unusable (see above)	Real Mode IVT (Interrupt Vector Table)
0x00000400	0x000004FF	256 bytes	RAM - partially unusable (see above)	BDA (BIOS data area)
0x00000500	0x00007BFF	almost 30 KiB	RAM (guaranteed free for use)	Conventional memory
0x00007C00 (typical location)	0x00007DFF	512 bytes	RAM - partially unusable (see above)	Your OS BootSector
0x00007E00	0x0007FFFF	480.5 KiB	RAM (guaranteed free for use)	Conventional memory
0x00080000	0x0009FFFF	128 KiB	RAM - partially unusable (see above)	EBDA (Extended BIOS Data Area)
0x000A0000	0x000FFFFFFF	384 KiB	various (unusable)	Video memory, ROM Area

address (size)	description
0x0400 (4 words)	IO ports for COM1-COM4 serial (each address is 1 word, zero if none)
0x0408 (3 words)	IO ports for LPT1-LPT3 parallel (each address is 1 word, zero if none)
0x040E (word)	EBDA base address >> 4 (usually!)
0x0410 (word)	packed bit flags for detected hardware
0x0417 (word)	keyboard state flags
0x041E (32 bytes)	keyboard buffer
0x0449 (byte)	Display Mode
0x044A (word)	number of columns in text mode
0x0463 (2 bytes, taken as a word)	base IO port for video
0x046C (word)	# of IRQ0 timer ticks since boot
0x0475 (byte)	# of hard disk drives detected
0x0480 (word)	keyboard buffer start
0x0482 (word)	keyboard buffer end
0x0497 (byte)	last keyboard LED/Shift key state

start	end	size	region/exception	description
Standard usage of the ROM Area				
0x000A0000	0x000BFFFF	128 KiB	video RAM	VGA display memory
0x000C0000	0x000C7FFF	32 KiB (typically)	ROM	Video BIOS
0x000C8000	0x000EFFFF	160 KiB (typically)	ROMs and unusable space	Mapped hardware & Misc.
0x000F0000	0x000FFFFFF	64 KiB	ROM	Motherboard BIOS

2. Perbedaan antara mode kerja 'Real-mode' dan mode 'Protect-mode' pada PC Compatible

Real-mode:

- Tidak dapat berkerja secara multitasking
- Tidak ada proteksi pada ruang alamat memori
- Prosesor hanya dapat mengeksekusi instruksi 16-bit
- Hanya dapat mengakses hanya 1024 KB dari memori

Protect-mode:

- Dapat bekerja secara multitasking
- Adanya sebuah protect pada ruang alamat memori