

Op logic	Formula equivalent	Op arit	Formula equivalent
$A \oplus B$	$(A+B) - 2(A \text{ AND } B)$	$A+B$	$(A \oplus B) + 2(A \text{ AND } B)$
$A \text{ OR } B$	$(A+B) - (A \text{ AND } B)$	$A-B$	$(A \oplus B) - 2((\text{NOT } A) \text{ AND } B)$
$A \text{ AND } B$	$\frac{(A+B) - (A \oplus B)}{2}$	$-A$	$(\text{NOT } A) + 1$
$\text{NOT } A$	$(-A) - 1$		

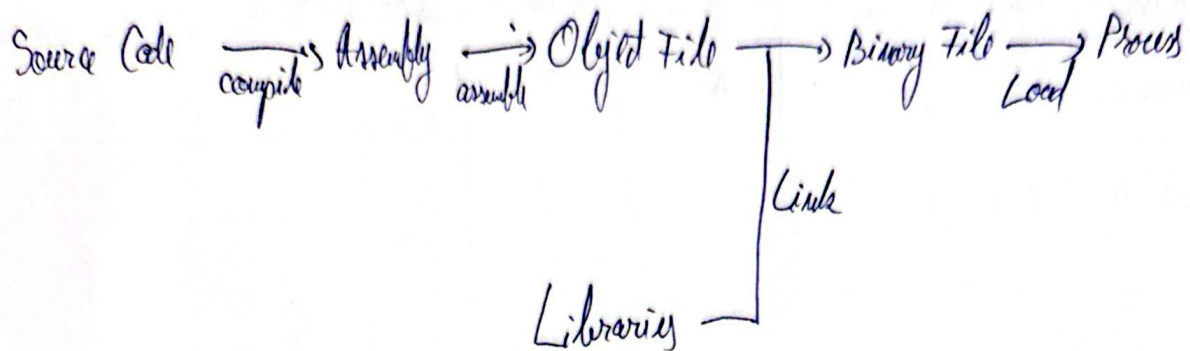
NOT	AND	OR	XOR
$\text{NOT } A$	$A \text{ AND } B$	$A \text{ OR } B$	$A \oplus B$
\overline{A}	$A \times B$	$A + B$	$A \oplus B$
$\neg A$	$A \cdot B$	$A \vee B$	$A \wedge B$
$\sim A$	$A * B$	$A \mid B$	$A \neq B$
$-A$	$A \cdot B$	$A \parallel B$	
A'	$A \wedge B$		
$!A$	$A \& B$		
	$A \& \& B$		

Bootloader: address $0x4A5A$ (garbage), $0x4C00$ (incorrect)

Hxd = hex editor

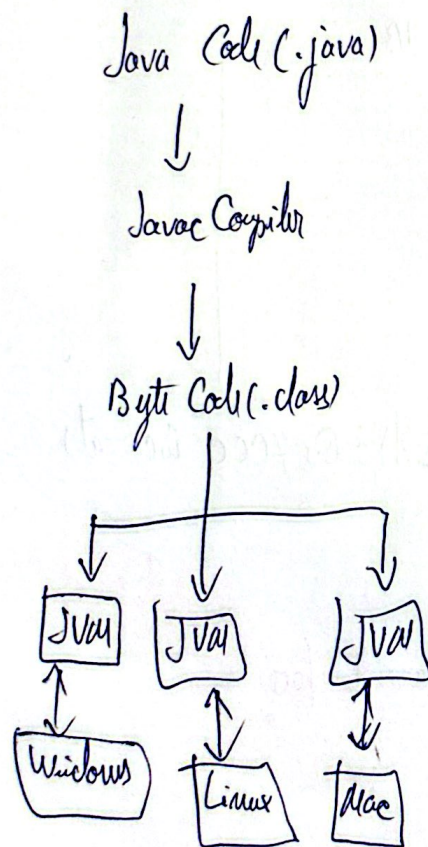
UEFI = Unified Extensible Firmware Interface

as -32 program-exit.asm -o program-exit.o
ld -m elf_i386 program-exit.o -o program-exit



GSA

- registri
- tipuri de date
- instrucțiuni
- metode de adresare a memoriei



Code interpreter:

Java: Java byte-code \rightarrow Java VM

C#: Common Intermediate Language (CIL) \rightarrow Common Language Runtime (CLR) 2.0-4.5

Python: .py, python byte-code \rightarrow python VM

Javascript: .js \rightarrow V8 run Spider Monkey Monkey

JIT (Just-In-Time Compilation)

op instructions / bits	1
multiple integers	3
multiple integers	depends (20-80)
code FP	3
multiple FP	5
multiple FP	(depends) 20-80
fused-multiply-add FP	5

Option	option level	Execution	Code size	mem. usage	compile time
-O0	optimization for compile time default	+	+	-	-
-O1 or -O	for code size and execution time	-	-	+	+
-O2	code size more for	--		+	++
-O3	code size	---		+	+++
-Os	code size		--		++
-Ofast	O3 with fast and accurate math calculations	---		+	+++