Linking!

sum.c

CPP

C preprocessor

sum.i

cc1

C compiler

sum.s

as

Assembler

sum.o

main.o

Linker

a.out

Exec file.
Preprocess

1. Comments are removed.

2. `#define`, `#includes` are handled.

`#` → preprocessor directive

`#define N 100`
Declaration

stmt that informs the compiler that the variable or the func. will be defined somewhere else.

e.g. int sum (int a, int b);

int x;

int sum (\ldots);

\{ \}

\equiv

\{ \}

extern int x;

//declaration.
Definition
1. memory is allocated for a var.
2. if a func. is defined.
   memory will be allocated.

```
ld
```

```
(Sum.o) → ld → main.o → a.out
```
ELF - Executable and Linkable Format

main.o  sum.o
Re locatable  object  files

a.out
Executable  object  file
2d: 28

\[ \begin{array}{c}
2d \\
- 4 \\
\hline \\
29
\end{array} \]
ELF for a relocatable obj file

ELF Header

- text
- rodata
- data
- bss
- symtab
- debug
- line
- strtab

Section header table.