

프로그램 컴파일링

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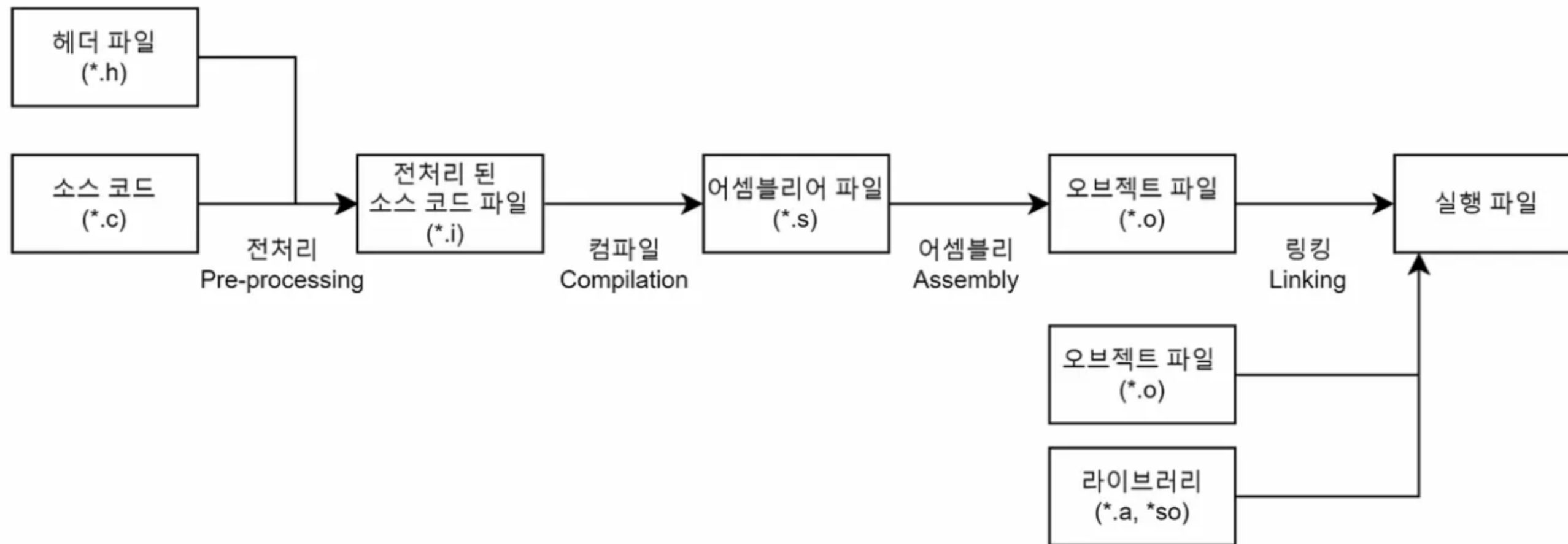
JIT, 인터프리터 방식

프로그램 컴파일링

컴파일이란?

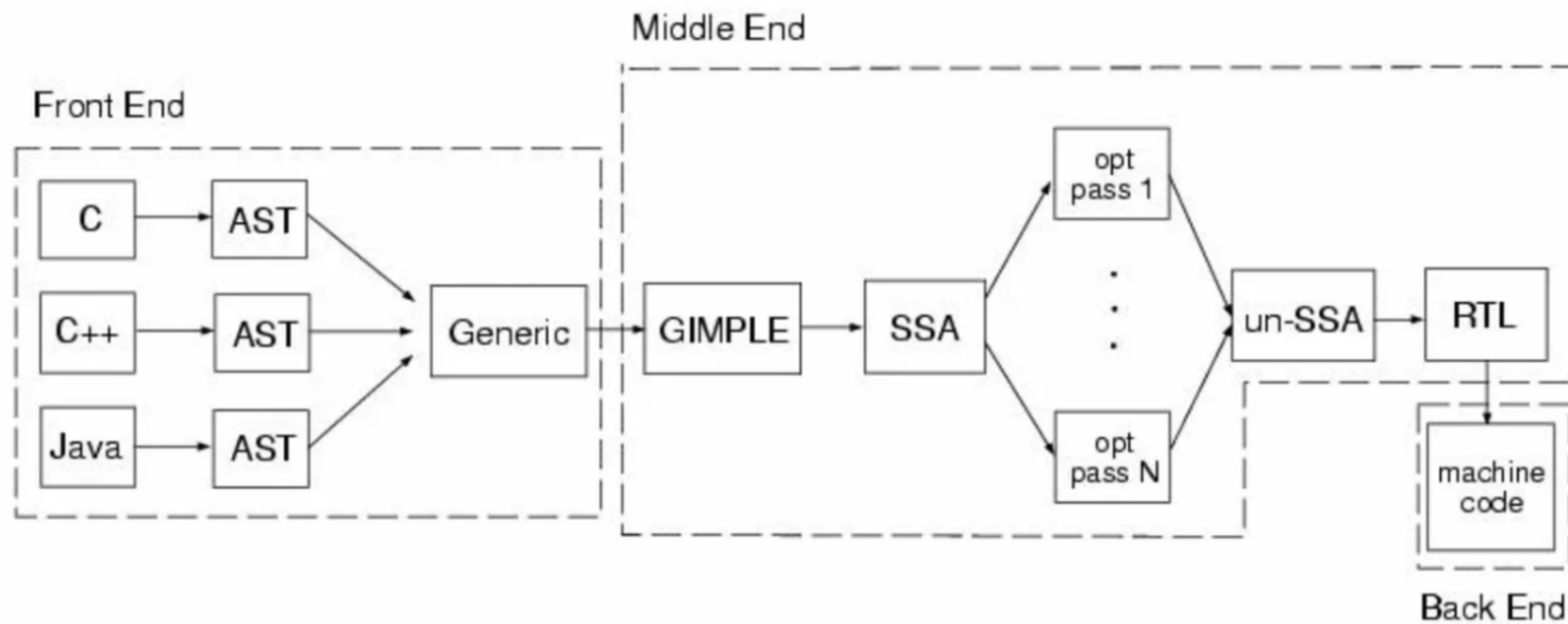
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컴파일 과정



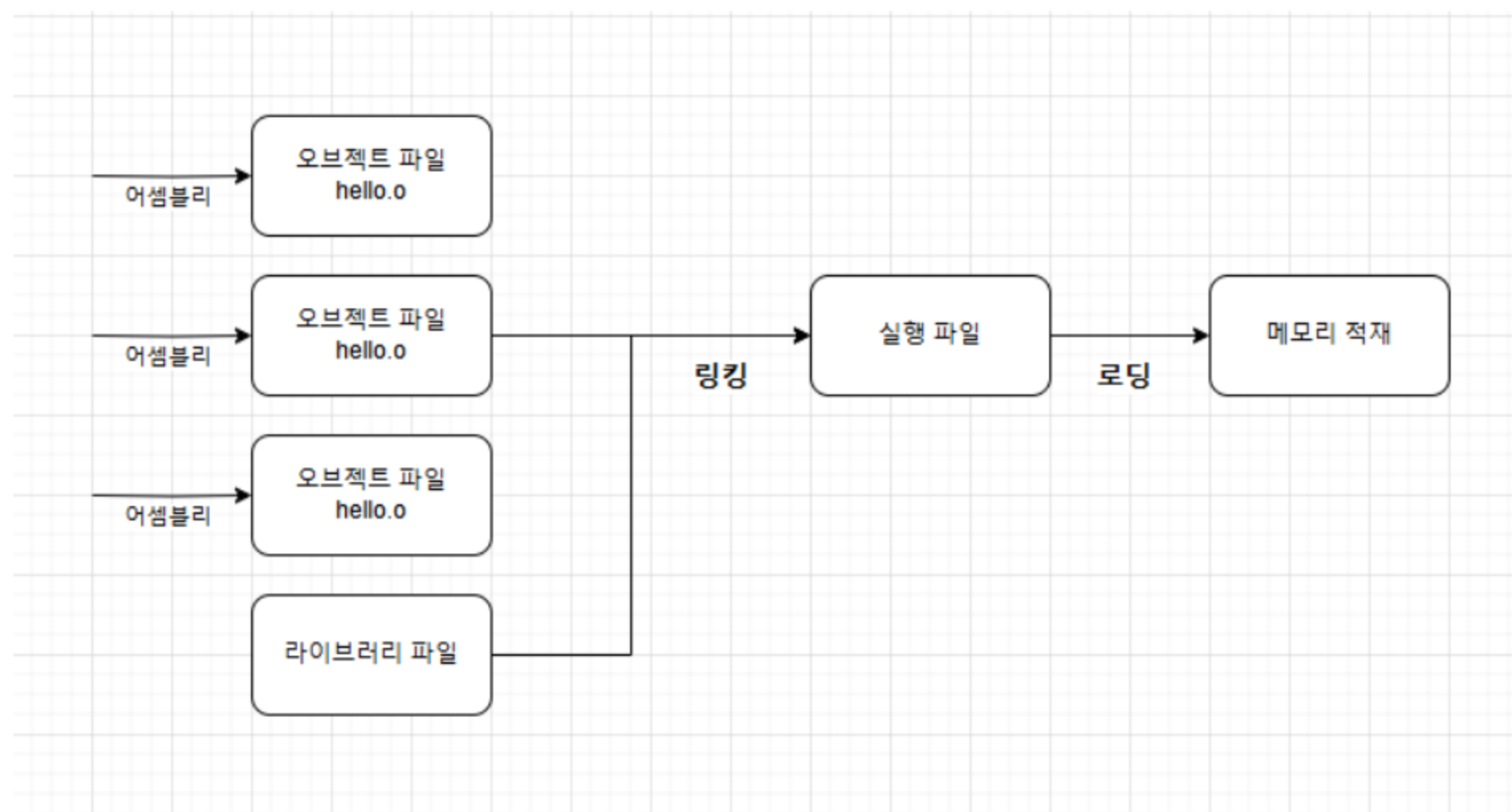
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컴파일 과정



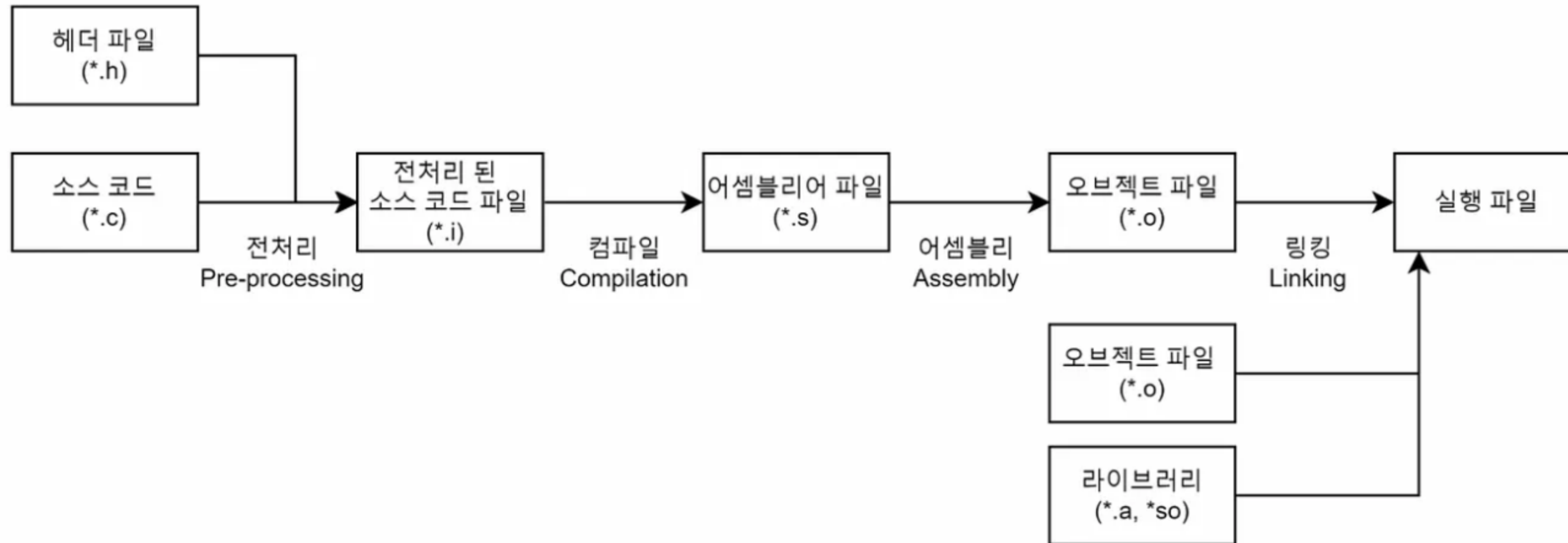
프로그램 컴파일링

링커와 로더



각 언어간 컴파일링 차이

C언어



각 언어간 컴파일링 차이

C언어

```
GNU nano 7.2
#include <stdio.h>

int main() {
    printf("Hello, Linux!\n");
    return 0;
}
```

hello.c

```
GNU nano 7.2 hello.i
# 0 "hello.c"
# 0 "<built-in>"
# 0 "<command-line>"
# 1 "/usr/include/stdc-predef.h" 1 3 4
# 0 "<command-line>" 2
# 1 "hello.c"
# 1 "/usr/include/stdio.h" 1 3 4
# 28 "/usr/include/stdio.h" 3 4
# 1 "/usr/include/x86_64-linux-gnu/bits/libc-header-start.h" 1 3 4
# 33 "/usr/include/x86_64-linux-gnu/bits/libc-header-start.h" 3 4
# 1 "/usr/include/features.h" 1 3 4
# 394 "/usr/include/features.h" 3 4
# 1 "/usr/include/features-time64.h" 1 3 4
# 20 "/usr/include/features-time64.h" 3 4
# 1 "/usr/include/x86_64-linux-gnu/bits/wordsize.h" 1 3 4
```

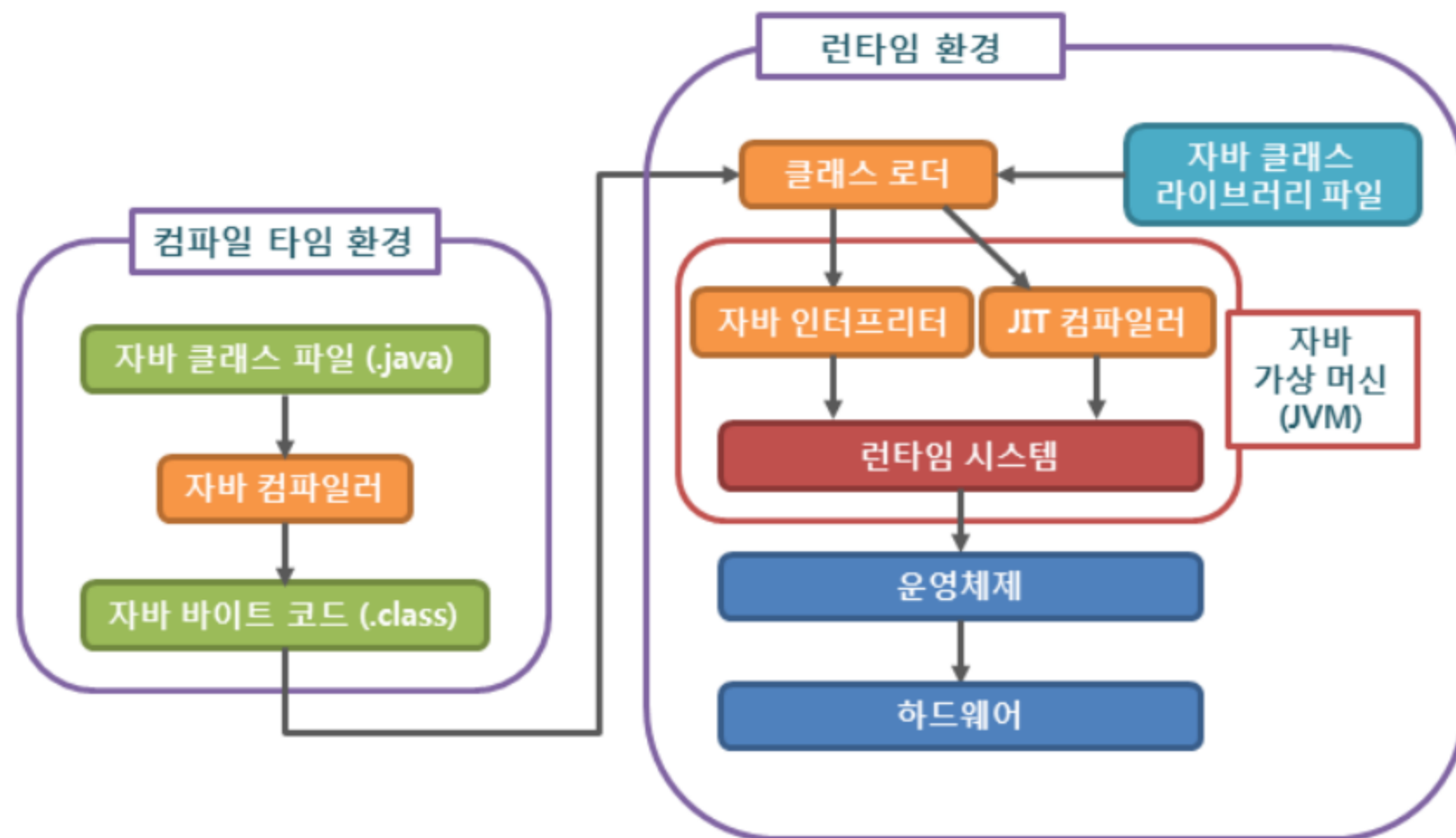
hello.i

```
GNU nano 7.2
main:
.LFB0:
    .cfi_startproc
    endbr64
    pushq   %rbp
    .cfi_def_cfa_offset 16
    .cfi_offset 6, -16
    movq    %rsp, %rbp
    .cfi_def_cfa_register 6
    leaq    .LC0(%rip), %rax
```

hello.s

각 언어간 컴파일링 차이

Java



JIT?
인터프리터?

각 언어간 컴파일링 차이

Java

```
GNU nano 7.2
public class hello {
    public static void main(String[] args) {
        System.out.println("Hello, Java!");
    }
}
```

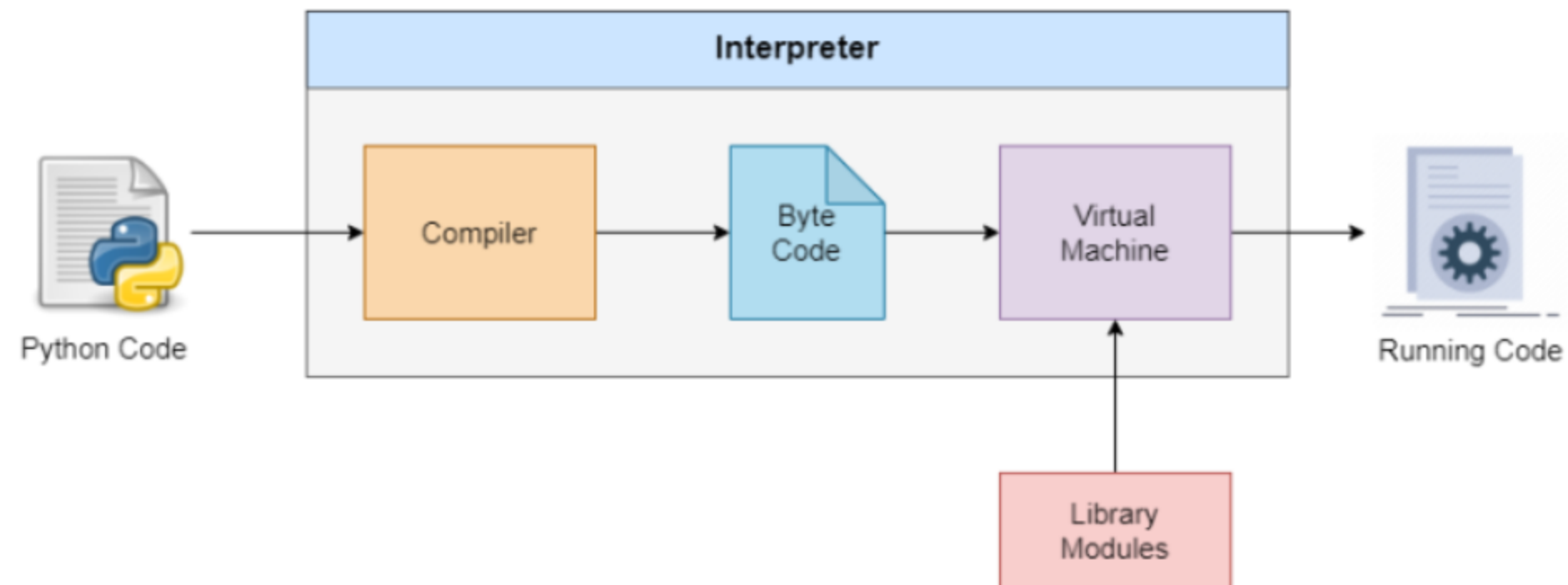
hello.java

```
GNU nano 7.2
♦♦♦♦^@^@^@A^@^]
^@^B^@^C^G^@^D^L^@^E^@^F^A^@^Pjava/lang/Object^A^@^F<i
^L^@^K^@^L^A^@^Pjava/lang/System^A^@^Cout^A^@^ULjava/i
^@^P^@^Q^G^@^R^L^@^S^@^T^A^@^Sjava/io/PrintStream^A^@^
SourceFile^A^@
hello.java^@!^@^U^@^B^@^@^@^@^@^@^B^@^A^@^E^@^F^@^A^@^W^
^@^B^@^@^@^C^@^H^@^D^@^A^@^[@^@^@^@^B^@^\\
```

hello.class

각 언어간 컴파일링 차이

Python



100

Python

```
GNU nano 7.2
def greet():
    print("Hello Python!")

if __name__ == "__main__":
    greet()
```

hello.py

```
GNU nano 7.2
```

```
^@^@^@qP^@^@^@^@^@^@^@^@^@^@^@^@^@^@  
Hello Python!)^A^Eprint^@^@^@^@^@^@Hhe  
^@^@^@^@^@D    ^/^D^Zr^E^@^@^@^@H__main  
^@^@^@A^@^@^@s^^^@^@^@C^A^A^A^B^A^A^]
```

hello.pyc

Q&A