

# LLVM Hands-On

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Hello.c

```
14
• (base) kushagraagarwal@Kushagras-Macbook llvm % clang hello.ll -o hello.exe -isysroot $(xcrun --show-sdk-path)
-macosx_version_min has been renamed to -macos_version_min
• (base) kushagraagarwal@Kushagras-Macbook llvm % ./hello.exe
Hello World
❖ (base) kushagraagarwal@Kushagras-Macbook llvm %
```

Numbers.c

```
1 error generated.
• (base) kushagraagarwal@Kushagras-Macbook llvm % clang numbers.ll -o numbers.exe -isysroot $(xcrun --show-sdk-path)
-macosx_version_min has been renamed to -macos_version_min
• (base) kushagraagarwal@Kushagras-Macbook llvm % ./numbers.exe
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
❖ (base) kushagraagarwal@Kushagras-Macbook llvm %
```

sam.ll

```
ld: library 'System' not found
clang-13: error: linker command failed with exit code 1 (use -v to see invocation)
• (base) kushagraagarwal@Kushagras-Macbook llvm % clang sam.ll -o sam.exe -isysroot $(xcrun --show-sdk-path)
warning: overriding the module target triple with x86_64-apple-macosx15.0.0 [-Woverride-module]
1 warning generated.
-macosx_version_min has been renamed to -macos_version_min
• (base) kushagraagarwal@Kushagras-Macbook llvm % ./sam.exe
Hi!
- Name: Kushagra Agarwal
- Srn: PES2UG22CS275
❖ (base) kushagraagarwal@Kushagras-Macbook llvm %
```

sam1.py

```
1 error generated.
• (base) kushagraagarwal@Kushagras-Macbook llvm % python sam1.py
• (base) kushagraagarwal@Kushagras-Macbook llvm % cat output.ll
@s1 = constant [44 x i8] c"Hi!\0a- Name: Kushagra Agarwal\0a- Srn: PES2UG22CS275\0a\00"

declare i32 @printf(i8*, ...)

define i32 @main() {
    %s1_ptr = getelementptr [44 x i8], [44 x i8]* @s1, i32 0, i32 0
    call i32 @printf(i8*, ...) @printf(i8* %s1_ptr)
    ret i32 0
}
❖ (base) kushagraagarwal@Kushagras-Macbook llvm %
```

## code\_gen.py

```
1 error generated.
• (base) kushagraagarwal@Kushagras-Macbook llvm % python code-gen.py
• (base) kushagraagarwal@Kushagras-Macbook llvm % clang output.ll -o output.exe -isysroot $(xcrun --show-sdk-path)
warning: overriding the module target triple with x86_64-apple-macosx15.0.0 [-Woverride-module]
1 warning generated.
-macosx_version_min has been renamed to -macos_version_min
• (base) kushagraagarwal@Kushagras-Macbook llvm % ./output.exe
Hi!
- Name: Kushagra Agarwal
- Srn: PES2UG22CS275
Hi!
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• (base) kushagraagarwal@Kushagras-Macbook llvm %
```