


## Stage 3 Codegen Example 1


Monday, May 6, 2024 11:01 AM



```
extern foo(int) -> int
```

```
fn main() -> int {  
    let x:int
```

```
    entry:
```




```
        x = $call_ext foo(42)  
        $ret x
```

```
}
```

```
.data  
.text  
.globl main
```

```
main:
```




```
    pushq %rbp  
    movq %rsp, %rbp  
    subq $16, %rsp  
    movq $0, -8(%rbp)  
    jmp main_entry
```

```
main_entry:
```



```
    movq $42, %rdi    // passing argument
```




```
    call foo
```



```
    movq %rax, -8(%rbp) // storing return value
```

```
    movq -8(%rbp), %rax  
    jmp main_epilogue
```

```
main_epilogue:
```



```
    movq %rbp, %rsp  
    popq %rbp  
    ret
```