

2 Compile “Hello, RISC-V”

Show me a minimal C ‘hello world’ that cross-compiles for RV32IMC and the exact gcc flags to produce an ELF.

Response

1. Create a Working Directory

```
mkdir -p ~/riscv_hello  
cd ~/riscv_hello
```

2. Create hello.c

```
nano hello.c
```

Paste this code:

```
volatile int *UART = (int *)0x10000000;  
void print_char(char c) {  
    *UART = c;  
}  
void print(const char *s) {  
    while (*s) {  
        print_char(*s++);  
    }  
}  
int main() {  
    print("Hello, RISC-V!\n");  
    while (1);  
    return 0;  
}
```

Save (Ctrl+O, Enter) and Exit (Ctrl+X).

3. Create linker.ld

```
nano linker.ld
```

Paste this minimal linker script:

```
ld
```

```
ENTRY(main)
```

```
SECTIONS {  
. = 0x80000000;  
  
.text : {  
    *(.text*)  
}}
```