```
ubuntu@primary:~/Home/Desktop/Year2/CS382$ ls
'CS382 HW1.pdf'   a.out     'lab 4'    lab3.c          myexec
 Lab1-CS382.c     demo.s    lab2.c    midpoint_gold.c  test.c
ubuntu@primary:~/Home/Desktop/Year2/CS382$ aarch64-linux-gnu-gcc-9 -E test.c > test.i
[ubuntu@primary:~/Home/Desktop/Year2/CS382$ cat test.i
# 1 "test.c"
# 1 "<built-in>"
# 1 "<command-line>"
# 31 "<command-line>"
# 1 "/usr/aarch64-linux-gnu/include/stdc-predef.h" 1 3
# 32 "<command-line>" 2
# 1 "test.c"


int main () {
  int a, b, c;
  a = 10;
  b = 15;
  c = a + b;
  return c;
}
ubuntu@primary:~/Home/Desktop/Year2/CS382$
```

```
}
[ubuntu@primary:~/Home/Desktop/Year2/CS382$ aarch64-linux-gnu-gcc-9 test.c -S
[ubuntu@primary:~/Home/Desktop/Year2/CS382$ cat test.s
        .arch armv8-a
        .file   "test.c"
        .text
        .align  2
        .global main
        .type   main, %function
main:
.LFB0:
        .cfi_startproc
        sub     sp, sp, #16
        .cfi_def_cfa_offset 16
        mov     w0, 10
        str     w0, [sp, 4]
        mov     w0, 15
        str     w0, [sp, 8]
        ldr     w1, [sp, 4]
        ldr     w0, [sp, 8]
        add     w0, w1, w0
        str     w0, [sp, 12]
        ldr     w0, [sp, 12]
        add     sp, sp, 16
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE0:
        .size   main, .-main
        .ident  "GCC: (Ubuntu 9.4.0-5ubuntu1) 9.4.0"
        .section        .note.GNU-stack,"",@progbits
ubuntu@primary:~/Home/Desktop/Year2/CS382$
```

```
        .section        .note.GNU-stack,"",@progbits
[ubuntu@primary:~/Home/Desktop/Year2/CS382$ aarch64-linux-gnu-as demo.s -o demo.o
[ubuntu@primary:~/Home/Desktop/Year2/CS382$ aarch64-linux-gnu-ld demo.o
[ubuntu@primary:~/Home/Desktop/Year2/CS382$ qemu-aarch64 a.out
[ubuntu@primary:~/Home/Desktop/Year2/CS382$ qemu-aarch64 a.out
[ubuntu@primary:~/Home/Desktop/Year2/CS382$ aarch64-linux-gnu-as demo.s -o demo.o
[ubuntu@primary:~/Home/Desktop/Year2/CS382$ aarch64-linux-gnu-ld demo.o
[ubuntu@primary:~/Home/Desktop/Year2/CS382$ qemu-aarch64 a.out
[ubuntu@primary:~/Home/Desktop/Year2/CS382$ ls
'CS382 HW1.pdf'   a.out     demo.s   'lab 5'    lab3.c          myexec    test.i
 Lab1-CS382.c     demo.o    'lab 4'   lab2.c    midpoint_gold.c  test.c    test.s
ubuntu@primary:~/Home/Desktop/Year2/CS382$
```