

2.

```
andrew_trieu@DESKTOP-RL9EAJM: ~  
andrew_trieu@DESKTOP-RL9EAJM:~$ gcc -nostdlib -no-pie hello_world.s -o hello  
andrew_trieu@DESKTOP-RL9EAJM:~$ ./hello  
Hello world  
andrew_trieu@DESKTOP-RL9EAJM:~$
```

3.

- a) msg: .ascii "Hello world\n\0"
 syscall_write_opcode: .quad 1
- b) movq \$60, %rax
 movq \$0, %rdi
 syscall

4. The program calculates $x = [(N/x) + x] * x$ using 10 loops.

a)

```
real    0m0.001s  
user    0m0.001s  
sys     0m0.000s
```

b)

	Add	Div	Sub	Mul
Floating point	1.094s	2.372s	1.092s	1.104s
Integer	1.098s	18.320s	1.091s	1.102s

c) There are significant difference between the 2 data types when it comes to division (due to remainders).