



The screenshot shows a Linux desktop environment with a window titled "hello\_world.asm - SciTE". The editor displays assembly code for a "Hello World" program. A terminal window titled "Terminal - gw2t@ranger1: ~/CSCI\_3130" is open in the foreground, showing the execution of the assembly code. The terminal output includes the directory listing of "discreateStructures", the compilation of "hello\_world.asm" using "nasm" and "gcc", and the successful execution of the resulting "hello\_world" binary, which prints "Hello, World".

```
1 hello_world.asm
;;
;; Hello World Example
;;

global main

segment .text

main:
    ; write(1, message, 13)
    mov rax, 1
    mov rdi, 1
    mov rsi, message
    mov rdx, 13
    syscall

    ; exit(0)
    mov rax, 60
    mov rdi, 0
    syscall

segment .data
message:
    db "Hello, World", 10 ; note the
```

```
Terminal - gw2t@ranger1: ~/CSCI_3130
File Edit View Terminal Tabs Help
gw2t@ranger1:~$ cd discreateStructures
gw2t@ranger1:~/discreateStructures$ ls
discreateStructures.workspace lab2 Makefile
gw2t@ranger1:~/discreateStructures$ cd .\
>
gw2t@ranger1:~/discreateStructures$ cd ./
gw2t@ranger1:~/discreateStructures$ cd ..
gw2t@ranger1:~$ ls
a.out discreateStructures lab2.cc lab5.cc lab8.cc publ
CSCI_3130 lab1.cc lab3.cc lab6.cc media test
Desktop lab1.out lab4.cc lab7.cc packets.dat
gw2t@ranger1:~$ cd CSCI_3130
gw2t@ranger1:~/CSCI_3130$ ls
hello_world.asm
gw2t@ranger1:~/CSCI_3130$ nasm -felf64 hello_world.asm -o hello_world.o
gw2t@ranger1:~/CSCI_3130$ ls
hello_world.asm hello_world.o
gw2t@ranger1:~/CSCI_3130$ gcc -m64 hello_world.o -o hello_world
gw2t@ranger1:~/CSCI_3130$ ls
hello_world hello_world.asm hello_world.o
gw2t@ranger1:~/CSCI_3130$ ./hello_world
Hello, World
gw2t@ranger1:~/CSCI_3130$
```