

COMPUTER ARCHITECTURE

LAB-02

YASH GUPTA

S20200010234

```
yash333@LAPTOP-Q1HCJ8BI:~$ cpp helloworld.c > helloworld
yash333@LAPTOP-Q1HCJ8BI:~$ cpp helloworld.c > helloworld.i
yash333@LAPTOP-Q1HCJ8BI:~$ ls
a.out abc.c helloworld helloworld.c helloworld.i
yash333@LAPTOP-Q1HCJ8BI:~$ gcc -S helloworld.i
yash333@LAPTOP-Q1HCJ8BI:~$ ls
a.out abc.c helloworld helloworld.c helloworld.i helloworld.s
yash333@LAPTOP-Q1HCJ8BI:~$ cat helloworld.s
.file "helloworld.c"
.text
.section .rodata
.LC0:
.string "hello world"
.text
.globl main
.type main, @function
main:
.LFB0:
.cfi_startproc
endbr64
pushq %rbp
.cfi_def_cfa_offset 16
.cfi_offset 6, -16
movq %rsp, %rbp
.cfi_def_cfa_register 6
leaq .LC0(%rip), %rdi
movl $0, %eax
call printf@PLT
movl $0, %eax
popq %rbp
.cfi_def_cfa 7, 8
ret
.cfi_endproc
.LFE0:
.size main, .-main
.ident "GCC: (Ubuntu 9.3.0-17ubuntu1~20.04) 9.3.0"
.section .note.GNU-stack,"",@progbits
.section .note.gnu.property,"a"
.align 8
.long 1f - 0f
.long 4f - 1f
.long 5
```

```
.string  "GNU"

.align 8
.long    0xc0000002
.long    3f - 2f

.long    0x3

.align 8

33@LAPTOP-Q1HC78BI:~$ as helloworld.s -o helloworld.o
33@LAPTOP-Q1HC78BI:~$ ls
abc.c  helloworld  helloworld.c  helloworld.i  helloworld.o  helloworld.s
33@LAPTOP-Q1HC78BI:~$ ld -dynamic-linker /lib64/ld-linux-x86-64.so.2 /usr/lib/x86_64-linux-gnu/crt1.o /usr/lib/x86_64-linux-gnu/crti.o /usr/lib/x86_64-linux-gnu/crtn.o helloworld.o /usr/lib/gcc/x86_64-linux
9/crtbegin.o -L /usr/lib/gcc/x86_64-linux-gnu/9/ -lgcc -lgcc_eh -lc -lgcc -lgcc_eh /usr/lib/gcc/x86_64-linux-gnu/9/crtend.o -o helloworld
33@LAPTOP-Q1HC78BI:~$ ./helloworld
worldyash333@LAPTOP-Q1HC78BI:~$ ls
abc.c  helloworld  helloworld.c  helloworld.i  helloworld.o  helloworld.s
33@LAPTOP-Q1HC78BI:~$
```

THANK YOU