

Task 1: Installing NASM

To install NASM, take the following steps:

1. Check **The netwide assembler (NASM)** website for the latest version.
2. Download the Linux source archive `nasm-X.XX.ta.gz`, where X.XX is the NASM version number in the archive.
3. Unpack the archive into a directory which creates a subdirectory `nasm-X. XX`.
4. `cd` to `nasm-X. XX` and type `./configure`. This shell script will find the best C compiler to use and set up Makefiles accordingly.
5. Type **make** to build the `nasm` and `ndisasm` binaries.
6. Type **make install** to install `nasm` and `ndisasm` in `/usr/local/bin` and to install the man pages.

You may choose other methods. Whatever works...

Task 2: Verify Installation

1. Copy the code given on the next page to a file titled "hello.asm"
2. Run the following command and make sure the program runs perfectly. It should print "a=5, b=2 c=7". You may change the values of a and b in the source code.

```
nasm -f elf64 hello.asm && gcc -o hello hello.o && ./hello
```

3. End of lab for today.

```
extern    printf
SECTION .data

a:    dq    5
b:    dq    2
c:    dq    0
fmt:   db "a=%ld, b=%ld c=%ld", 10, 0
```

```
SECTION .text
```

```
global main
```

```
main:
    push    rbp

    mov     rax,[a]
    mov     rbx,[b]
    add     rax,rbx
    mov     [c],rax
    mov     rdi,fmt
    mov     rsi,[a]
    mov     rdx,[b]
    mov     rcx,[c]
    mov     rax,0
    call    printf

    pop     rbp

    mov     rax,0
    ret
```