CS 318 – Architecture and Organization
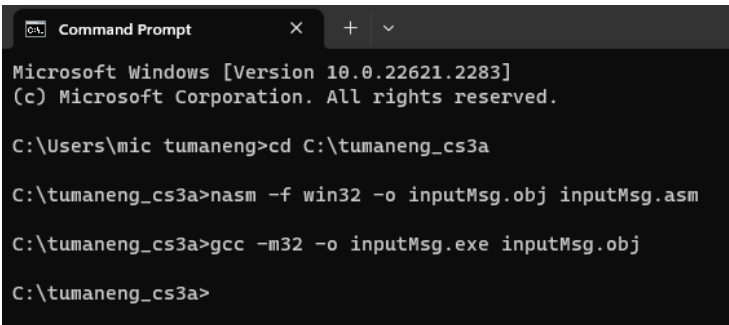## LEARNING TASK (BASIC ASSEMBLY INSTRUCTIONS)

NAME: Marc Christian D. Tumaneng   SECTION: BSCS 3A

SAMPLE RUN

Step-by-step sample run of your assembly program with explanation.

step 1: *Setting the correct file path.*	 **Command Prompt** Microsoft Windows [Version 10.0.22621.2283] (c) Microsoft Corporation. All rights reserved. C:\Users\mic tumaneng>cd C:\tumaneng_cs3a C:\tumaneng_cs3a>
step 2: *Assembling the Assembly Code. Using the command 'nasm -f win32 -o inputMsg.obj inputMsg.asm' (the other command did not work on my computer)*	 **Command Prompt** Microsoft Windows [Version 10.0.22621.2283] (c) Microsoft Corporation. All rights reserved. C:\Users\mic tumaneng>cd C:\tumaneng_cs3a C:\tumaneng_cs3a>nasm –f win32 –o inputMsg.obj inputMsg.asm C:\tumaneng_cs3a>
step 3: *Linking the Object File. using the command 'gcc -m32 -o inputMsg.exe inputMsg.obj'(the other command did not work on my computer)*	 **Command Prompt** Microsoft Windows [Version 10.0.22621.2283] (c) Microsoft Corporation. All rights reserved. C:\Users\mic tumaneng>cd C:\tumaneng_cs3a C:\tumaneng_cs3a>nasm –f win32 –o inputMsg.obj inputMsg.asm C:\tumaneng_cs3a>gcc –m32 –o inputMsg.exe inputMsg.obj C:\tumaneng_cs3a>
step 4: *Running the Executable*	 **Command Prompt - inputMsg** Microsoft Windows [Version 10.0.22621.2283] (c) Microsoft Corporation. All rights reserved. C:\Users\mic tumaneng>cd C:\tumaneng_cs3a C:\tumaneng_cs3a>nasm –f win32 –o inputMsg.obj inputMsg.asm C:\tumaneng_cs3a>gcc –m32 –o inputMsg.exe inputMsg.obj C:\tumaneng_cs3a>inputMsg.exe What is your name?

Result:	

Command Prompt

```
Microsoft Windows [Version 10.0.22621.2283]
(c) Microsoft Corporation. All rights reserved.

C:\Users\mic tumaneng>cd C:\tumaneng_cs3a

C:\tumaneng_cs3a>nasm -f win32 -o inputMsg.obj inputMsg.asm

C:\tumaneng_cs3a>gcc -m32 -o inputMsg.exe inputMsg.obj

C:\tumaneng_cs3a>inputMsg.exe
What is your name?
Marc Christian D. Tumaneng

How old are you?
20

Where do you live?
Brgy. San Jose, Pili, Camarines Sur

Nice to meet you, Marc Christian D. Tumaneng, 20 years old, who lives at Brgy. San Jose, Pili, Camarines Sur.

C:\tumaneng_cs3a>
```

PROGRAM CODE

```
;Marc Christian D. Tumaneng_bscs3a
;Learning Task (Basic Assembly Instructions)


section .data
    ; Prompts for user input
    prompt_name db 'What is your name? ',0xA, 0x0     ; Prompt for
name
    prompt_age db 'How old are you? ',0xA, 0x0        ; Prompt for
age
    prompt_address db 'Where do you live? ',0xA, 0x0  ; Prompt for
address


    ; Format specifiers for scanf
    input_name db '%s', 0                             ; Format specifier for
name input
    input_age db '%d', 0                              ; Format specifier for
age input
    input_address db '%s', 0                          ; Format specifier for
address input


    message db 'Nice to meet you, %s, %d years old, who lives at
%s.',0xA, 0x0
    newline db 10, 0                                  ; Newline character



section .bss
    ; Buffers to store user input
    name resb 100        ; Buffer to store name
    age resb 100
    address resb 200     ; Buffer to store address

section .text
    global _main
```

```
    extern _printf
    extern _scanf
    extern _gets


_main:
    ; Display a prompt for name
    push prompt_name
    call _printf
    add esp, 4


    ; Read user input for name
    push name
    call _gets
    add esp, 8


    ; Print a new line
    push newline
    call _printf
    add esp, 4


    ; Display a prompt for age
    push prompt_age
    call _printf
    add esp, 4


    ; Read user input for age
    push age
    push input_age
    call _scanf
    add esp, 8

    ; Convert the input to an integer
    mov eax, [age]
    push eax
```

```
; Print a new line
push newline
call _printf
add esp, 4


; Display a prompt for address
push prompt_address
call _printf
call _gets
add esp, 4


; Read user input for address
push address
call _gets
add esp, 8


; Print a new line
push newline
call _printf
add esp, 4


; Build the message
push address
push dword [age] ; Push the integer value of age
push name
push message
call _printf
add esp, 16


ret
```

```
Microsoft Windows [Version 10.0.22621.2283]
(c) Microsoft Corporation. All rights reserved.

C:\Users\mic tumaneng>cd C:\tumaneng_cs3a

C:\tumaneng_cs3a>nasm -f win32 -o inputMsg.obj inputMsg.asm

C:\tumaneng_cs3a>gcc -m32 -o inputMsg.exe inputMsg.obj

C:\tumaneng_cs3a>inputMsg.exe
What is your name?
Marc Christian D. Tumaneng

How old are you?
20

Where do you live?
Brgy. San Jose, Pili, Camarines Sur

Nice to meet you, Marc Christian D. Tumaneng, 20 years old, who lives at Brgy. San Jose, Pili, Camarines Sur.

C:\tumaneng_cs3a>
```