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**ROLL NO: 20F-0161**

**SECTION: BCS-3A**

**SUBJECT: COAL**

**ASSIGNMENT NO: 05**

**QNO1**

**CODE**

INCLUDE Irvine32.inc

.data

Msg1 byte "Enter hexadecimal value from 0-F: ", 0

Msg2 byte "The equivalent decimal value is ", 0

Msg3 byte "Invalid input.", 0

Value byte ?

.code

main PROC

call InputFunc

cmp ebx, 1

je Error

call writechar

call ConvertFunc

Error :

call crlf

exit

main endp

InputFunc proc

mov eax, 0

mov edx, offset Msg1

call writestring

call readchar

cmp al, 0

jng Invalid

cmp al, 'F'

ja Invalid

mov Value, al

jmp Valid

Invalid :

call writechar

mov ebx, 1

call crlf

mov edx, offset Msg3

call writestring

ret

Valid :

mov ebx, 2

ret

InputFunc endp

ConvertFunc proc

cmp Value, '9'

jbe Decimal

cmp Value, 'F'

jmp Hexadecimal

Decimal :

sub al, 30h

mov Value, al

mov eax, 0

mov al, Value

call OutputFunc

ret

Hexadecimal :

sub al, 51h

call OutputFunc

ret

ConvertFunc endp

OutputFunc proc

call crlf

mov edx, offset Msg2

call writestring

mov Value, al

mov eax, 0

mov al, Value

call writehex

ret

OutputFunc endp

END main

**SCREENSHOT**

**QNO2**

**CODE**

INCLUDE Irvine32.inc

.data

Msg1 db "Please enter a hex\_number of 4 Digits: ", 0

Msg2 db "Output: ", 0

.code

main PROC

call InputFunc

call Convert

call OutputFunc

exit

main ENDP

InputFunc PROC

l3 :

mov edx, OFFSET Msg1

call writeString

call readHex

cmp eax, 4096

jl l4

cmp eax, 47583

jg l4

jmp L2

l4 :

mov edx, OFFSET againInput

call writeString

call crlf

jmp l3

L2 :

ret

InputFunc ENDP

Convert PROC

mov ecx, 16

mov edx, eax

L1 :

ROR ax, 1

RCL dx, 1

loop L1

ret

Convert ENDP

OutputFunc PROC

mov eax, edx

mov edx, OFFSET Msg2

call writeString

call writeHex

call crlf

ret

OutputFunc ENDP

END main

**SCREENSHOT**