

CSci. 516 Program 1 - February 20, 2006

For your first program, you are to write an assembly program that will display on a clear screen as follows:

Hello - I am xxxxxxxxx (insert your name) SID

To view the current Time please press "T", any other key ends the Program?

To view the current day of the week and the Date please press "D", any other key ends the Program?

**End the program with the following sentence:
Thank you – Have a nice day!**

Prompt the user with the first question. You are then to read the user's response from the keyboard. If the user's response is T, then display "The current time is: **XX:XX:XX**".

and

prompt the user with the second question. You are then to read the user's response from the keyboard. If the user's response is D, then display "Today is: *the X day of the week. The Date is mm.dd.yy*"

In both cases any other key closes the program..

Use the string output function (int 21h function 09h – *See page 466*) to write to the screen. Use buffered input to read from the keyboard (int 21h function 0Ah – *See page 469*).

Use good structured methods to design your program. Use meaningful labels. Align your fields and use comments to explain the working of your code. Neatness counts in your grade. Any additional feature will be graded.

You may use the MASM or the Turbo Assembler to assemble and link your program. Your Source Program (Prg1_ID.ASM) must be located on your floppy disk (drive A) and all output will be written there. After the program has been assembled with no errors, execute the program. If necessary, use the Turbo Debugger to find any problems. Appendix D in your book discusses the Turbo Debugger. Provide the following files on your floppy disk (drive A): Prg1_ID.ASM, Prg1_ID.LST, Prg1_ID.OBJ, Prg1_ID.EXE.

Some hints in forms of Pseudo-code and charts are given below.

The Lecture which discusses the matter is Lecture 11 on my web page.

An Example Pseudo-code for Program 1

Main Program

```
    Call Clear_Screen
    Prompt first question
    Call Read_Key_Board
    Ifkey=T Then
        Call Print_MessageT
        Goto Second Question
    Else
        Call Print_End
    End If
```

```
Second Qestion: Prompt second question
                Call Read_Key_Board
                Ifkey=D Then
                    Call Print_MessageD
                End If
                Call Print_End
```

End Main

Clear_Screen

```
    Save all Registers
    Write 25 Blank Lines to the Screen
    Reset Cursor to Line 1 Column 1
    Restore all Registers
```

End Clear_Screen

Print_MessageT

```
    Write Line One to the Screen
    Call Get_Time
    Write Line Two to the Screen
```

End Print_Message

Print_MessageD

```
    Write Line One to the Screen
    Call Get_Date
    Write Line Two to the Screen
```

End Print_Message

Read_Key_Board

```
    Write Repeat Line to the Screen
    Read Reply from the Key Board
```

End Read_Key_Board

Get_Date

```
    Get current Date from the Operating System
    Move 0 to ah
    Call To_ASCII
    Move converted Day of the week to Message
```

```

    Move Year to AX Register
    Call To_ASCII
    Move converted Year to Message
    Move Month to AX Register
    Call To_ASCII
    Move converted Month to Message
    Move Day to AX Register
    Call To_ASCII
    Move converted Day to Message
End Get_Date
Print_End
    Write Ending Line to the Screen
End Print_End

Get_Time
    Get current Time from the Operating System
    Set AM_PM = 'PM'
    If Hour > 12 Then
        Hour = Hour - 12
    Else
        Set AM_PM = 'AM'
    End IF
    Move Hour to AX Register
    Call To_ASCII
    Move converted Hour to Message
    Move Minute to AX Register
    Call To_ASCII
    Move converted Minute to Message
    Move Second to AX Register
    Call To_ASCII
    Move converted Second to Message
End Get_Time

To_ASCII
    Set Count to 5
    Set Index to 4
    Do While Count is > 0
        Divide AX by 10 - Quotient to AX
        Remainder to DX
        Add 30h to DX to Convert to ASCII
        Move DL to Ascii_Out [Index]
        Decrement Index
        Decrement Count
    End Do
End To_ASCII

End Main Program

```

An Example Block Diagrams





