

CSci. 516 Program 1 - October 06, 2007

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 and your class ID#)

To view the current Time please press “CT”,

To view the current day of the week press “DW”,

To view the current date press “CD”,

Press “EP” to end the program?

End the program with the following sentence:

Thank you – Have a nice day!

Prompt the user with the above questions. You are then to read the user's response from the keyboard. If the user's response is CT, then display *“The current time is: **XX:XX:XX**”*.

If the user's response is DW, then display *“Today is: **the X day of the week**”*.

If the user's response is CD, then display *“The current date is: **mm.dd.yy**”*

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

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

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 a labeled floppy disk with your name. Submit all files generated by your compiler, along with your source file. 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. The notion ID means your class list number.

*Some hints in forms of Pseudo-code and charts are given below.
The Lecture which discusses the matter is Lecture_Interrups on my web page.*

An Example Pseudo-code for Program 1

Main Program

```
Call Clear_Screen
Prompt all questions
Call Read_Key_Board
If key=CT Then
    Call Print_MessageCT
    Else
    Call Print_End
End If
```

```
Second Question: If key=CW Then
    Call Print_MessageCW
End If
```

```
Call Print_End
```

```
Third Question: If key=CD Then
    Call Print_MessageCD
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 the answer to the Screen
Call Get_Time
Write the time to the Screen
```

End Print_Message

Print_MessageW

```
Write the answer to the Screen
Call Get_Date
Write the day of the week to the Screen
```

End Print_Message

Print_MessageD

```
Write the answer to the Screen
Call Get_Date
Write the date 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





