Experiment 07: Mouse Interfacing

Learning Objective: Student should be able to Develop program to interface mouse driver.
Tools: TASM/MASM

Theory:

Interface mouse using Int 33H

Int 33h MS Mouse Interrupt

Function 0 Reset
Input
AX = 0
Output
AX = mouse status -1 = installed
0 = not installed
BX = number of buttons

Function 1 Show Mouse Cursor
Input
AX = 1
Output
NONE

Function 2 Hide Mouse Cursor
Input
AX = 2
Output
NONE

Function 3 Get Mouse Position & Button Status
Input
AX = 3
Output
BX = Button Status
xxxx xxxx xxxx xMRL
M=middle (if present) R=right L=left
0= not pressed 1 = pressed
CX = Horizontal Mouse Cursor Position
DX = Vertical Mouse Cursor Position
(div positions by 2 for med res

graphics; div by 8 for text mode)

Function 4 Set Mouse Cursor Position

Input
AX = 4
CX = new horizontal cursor position
DX = new vertical cursor position
Output
NONE

Function 5 Get Button Press Information

Input
AX = 5
BX = button of interest (0=L; 1=R; 2=M)
Output
AX = button status (current status of ALL buttons)
BX = number of buutton presses on specified button
CX = horizontal position at last press
DX = vertical position at last press

Function 6 Get Button Release Information

Input
AX = 6
BX = button of interest (0=L; 1=R; 2=M)
Output
AX = button status (current status of ALL buttons)
BX = number of buutton presses on specified button
CX = horizontal position at last release
DX = vertical position at last release

Function 7 Set Minimum and Maximum X Position

Input
AX = 7
CX = new minimum horizontal cursor position
DX = new maximum horizontal cursor position
Output
NONE

Function 8 Set Minimum and Maximum Y Position

Input
AX = 8
CX = new minimum vertical cursor position
DX = new maximum vertical cursor position
Output
NONE

Function 9 Define Graphics Cursor
Input
AX = 9
BX = horizontal cursor hot spot (0,0) upper left
CX = vertical cursor hot spot
ES:DX = address of screen and cursor mask
Output
NONE

Application: Use of Int 33 H to interface mouse with system.

Program and Output:

Result and Discussion:

1. **We understood the mouse interface in ASM.**
2. **We understood and develop the program to interface mouse driver**
3. **We use the different function to perform mouse interface and use a graphic to show it pixel.**

Learning Outcomes: The student should have the ability to

LO 9.1 Compare DOS and BIOS interrupts.

LO 9.2 Develop an application for Mouse interfacing using INT 33H.

LO 9.3 Develop an application for keyboard and Printer interfacing using INT 09H and INT 05H respectively.

Course Outcomes: Upon completion of the course students will be able to make use of instructions of 8086 to build assembly and Mixed language programs.

Conclusion:

Viva Questions:

1. Which interrupt used for mouse interfacing?

For Faculty Use

Correction Parameters	**Formative Assessment [40%]**	**Timely completion of Practical [40%]**	**Attendance / Learning Attitude [20%]**	
Marks Obtained				