שיעור ראשון:

1. נתונה התוכנית הבאה בשפת אסמבלי עבור המעבד 8086 ,עקוב אחר התוכנית ע"י טבלת מעקב ורשום לאחר כל פקודה ופקודה את מצבם של האוגרים והדגלים

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | BX | AL | CH | CL | ZF | CF |  | MEMORY: |
| MOV BX,2000H | 2000H |  |  |  |  |  | 2000H | F0H |
| MOV AL,[BX] |  | F0H |  |  |  |  | 2001H | 30H |
| INC BX | 2001H |  |  |  | 0 |  |  |  |
| ADD AL,[BX] |  | F0H+30H=20H |  |  | 0 | 1 |  |  |
| MOV CL,17H |  |  |  | 17H |  |  |  |  |
| SUB AL,CL |  | 20H-17H=9H |  |  | 0 | 0 |  |  |
| MOV CH,0 |  |  | 0 |  |  |  |  |  |
| ADD BX,CX | 2018H |  |  |  | 0 | 0 |  |  |
| SUB CH,AL |  |  | 0-9H=F7H |  | 0 | 1 |  |  |

2.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | AX | BX | SI | ZF | CF |  | MEMORY |
| MOV AX,8000H | 8000H |  |  |  |  | 2000H | FFH |
| MOV BX,8000H |  | 8000H |  |  |  | 2001H | FFH |
| ADD AX,BX | 0000H |  |  | 1 | 1 | 2002H | 01H |
| MOV SI,2000H |  |  | 2000H |  |  | 2003H | 00H |
| MOV AX,[SI] | FFFFH |  |  |  |  | 2004H | F0H |
| INC SI |  |  | 2001H | 0 |  | 2005H | F0H |
| ADD AX,[SI] | 01FFH |  |  | 0 | 0 | 2006H | 3AH |
| INC SI |  |  | 2002H | 0 |  |  |  |
| ADD AX,[SI] | 0001H |  |  | 0 | 0 |  |  |
| INC SI |  |  | 2003H | 0 |  |  |  |
| ADD [SI],AL |  |  |  | 0 | 0 | 2003H | 01H |

3.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | BX | AX | ZF | CF |  | MEMORY: |
| MOV BX,2000H | 2000H |  |  |  | 2000H | 00H |
| MOV AX,0 |  | 0000H |  |  | 2001H | 10H |
| ADD AX,[BX] |  | 1000H | 0 | 0 | 2002H | 34H |
| ADD BX,2 | 2002H |  | 0 | 0 | 2003H | 7FH |
| ADD AX,[BX] |  | 7F34H | 0 | 0 | 2004H | 19H |
| ADD BX,2 | 2004H |  | 0 | 0 | 2005H | 02H |
| ADD AX,[BX] |  | 0219H | 0 | 0 | 2006H | 19H |
| ADD BX,2 | 2006H |  | 0 | 0 | 2007H | 02H |
| MOV [BX],AX |  |  |  |  |  |  |