**חוברת תרגול הוראות באסמבלי**

**חלק ו' - חילוק**

IDIV , DIV

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **תרגול ההוראות החישוביות** | | **עמודים** | **תרגילים** |
|  | **DIV**  חילוק ללא סימן | בית: | 2 - 5 | 1 - 16 |
| מילה: | 6 - 7 | 1 - 6 |
|  | **DIV**  חילוק עם סימן | בית: | 8 - 11 | 1 - 16 |
| מילה: | 12 - 13 | 1 - 6 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1111 | 1110 | 1101 | 1100 | 1011 | 1010 | 1001 | 1000 | 0111 | 0110 | 0101 | 0100 | 0011 | 0010 | 0001 | 0000 | בסיס בינארי | | F  (15) | E  (14) | D  (13) | C  (12) | B  (11) | A  (10) | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | בסיס הקסה**-H** | | | | | | | | | | | | | |
| **תרגול ההוראה :DIV (חילוק ללא סימן - בית)** | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **דוגמה למעבר מ-H לעשרוני** |  | **הקסה -H** | | | | | | | | | **02BCH** | **160** | **161** | **162** | **163** | **164** | **165** | **166** | **167** | | 0\*4096 + 2\*256 + B(11)\*16 + C(12)\*1 = 700 | 1 | 16 | 256 | 4,096 | 65,536 | 1,048,576 | 16,777,216 | 268,435,456 | | | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **דגלים** כן=1 , לא=0 | | | | | AX | | | DX | | **ביצוע ההוראה** | | |
| **OF**  (גלישה) | **CF**  (נשא) | **PF**  (זוגיות) | **SF**  (סימן) | **ZF**  (אפס) | AL | AH | | DL | DH |
| ? | | | | |  |  | |  |  | **א**. המרת האופרנדים לעשרוני.  **ב**. **חילוק**: אם האופרנד בגודל:  בית**: האופרנד AX « AX / . תוצאה | שארית**  מלה: **האופרנד DX:AX**  **AX (תוצאה)DX (שארית)** | 256 **+** שלילי **=** **חיובי**  256 **-** חיובי **=** **שלילי** | |
| **תחום גלישה:**  ללא סימן: 0 עד 255.  עם סימן: 128- עד 127. | |
|  | | | | | | | | | | | | |
| ? | ? | ? | ? | ? | 96H | 00H | |  |  | |  |  |  |  | | --- | --- | --- | --- | | 150 | | :ללא סימן | **MOV** AX , 0096H | | 2 | | **MOV** DL , 02H | | תוצאה:  75 | 150 / 2 = | | **DIV** DL | | שארית:  0 | | | **1** |
|  | | | 02H |  |
| תוצאה  4BH  (75) | | שארית  00H  (0) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0040H | |  | | **MOV** DL , 05H | | תוצאה: |  | | **DIV** DL | | שארית: | | | **2** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0100H | |  | | **MOV** DH , 03H | | תוצאה: |  | | **DIV** DH | | שארית: | | | **3** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0201H | |  | | **MOV** DH , 05H | | תוצאה: |  | | **DIV** DH | | שארית: | | | **4** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1111 | 1110 | 1101 | 1100 | 1011 | 1010 | 1001 | 1000 | 0111 | 0110 | 0101 | 0100 | 0011 | 0010 | 0001 | 0000 | בסיס בינארי | | F  (15) | E  (14) | D  (13) | C  (12) | B  (11) | A  (10) | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | בסיס הקסה**-H** | | | | | | | | | | | | | |
| **תרגול ההוראה :DIV (חילוק ללא סימן - בית)** | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **דוגמה למעבר מ-H לעשרוני** |  | **הקסה -H** | | | | | | | | | **02BCH** | **160** | **161** | **162** | **163** | **164** | **165** | **166** | **167** | | 0\*4096 + 2\*256 + B(11)\*16 + C(12)\*1 = 700 | 1 | 16 | 256 | 4,096 | 65,536 | 1,048,576 | 16,777,216 | 268,435,456 | | | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **דגלים** כן=1 , לא=0 | | | | | AX | | | DX | | **ביצוע ההוראה** | | |
| **OF**  (גלישה) | **CF**  (נשא) | **PF**  (זוגיות) | **SF**  (סימן) | **ZF**  (אפס) | AL | AH | | DL | DH |
| ? | | | | |  |  | |  |  | **א**. המרת האופרנדים לעשרוני.  **ב**. **חילוק**: אם האופרנד בגודל:  בית**: האופרנד AX « AX / . תוצאה | שארית**  מלה: **האופרנד DX:AX**  **AX (תוצאה)DX (שארית)** | 256 **+** שלילי **=** **חיובי**  256 **-** חיובי **=** **שלילי** | |
| **תחום גלישה:**  ללא סימן: 0 עד 255.  עם סימן: 128- עד 127. | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0300H | |  | | **MOV** DL , 06H | | תוצאה: |  | | **DIV** DL | | שארית: | | | **5** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0240H | |  | | **MOV** DH , 0AH | | תוצאה: |  | | **DIV** DH | | שארית: | | | **6** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0500H | |  | | **MOV** DH , 0BH | | תוצאה: |  | | **DIV** DH | | שארית: | | | **7** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0311H | |  | | **MOV** DL , 15H | | תוצאה: |  | | **DIV** DL | | שארית: | | | **8** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1111 | 1110 | 1101 | 1100 | 1011 | 1010 | 1001 | 1000 | 0111 | 0110 | 0101 | 0100 | 0011 | 0010 | 0001 | 0000 | בסיס בינארי | | F  (15) | E  (14) | D  (13) | C  (12) | B  (11) | A  (10) | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | בסיס הקסה**-H** | | | | | | | | | | | | | |
| **תרגול ההוראה :DIV (חילוק ללא סימן - בית)** | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **דוגמה למעבר מ-H לעשרוני** |  | **הקסה -H** | | | | | | | | | **02BCH** | **160** | **161** | **162** | **163** | **164** | **165** | **166** | **167** | | 0\*4096 + 2\*256 + B(11)\*16 + C(12)\*1 = 700 | 1 | 16 | 256 | 4,096 | 65,536 | 1,048,576 | 16,777,216 | 268,435,456 | | | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **דגלים** כן=1 , לא=0 | | | | | AX | | | DX | | **ביצוע ההוראה** | | |
| **OF**  (גלישה) | **CF**  (נשא) | **PF**  (זוגיות) | **SF**  (סימן) | **ZF**  (אפס) | AL | AH | | DL | DH |
| ? | | | | |  |  | |  |  | **א**. המרת האופרנדים לעשרוני.  **ב**. **חילוק**: אם האופרנד בגודל:  בית**: האופרנד AX « AX / . תוצאה | שארית**  מלה: **האופרנד DX:AX**  **AX (תוצאה)DX (שארית)** | 256 **+** שלילי **=** **חיובי**  256 **-** חיובי **=** **שלילי** | |
| **תחום גלישה:**  ללא סימן: 0 עד 255.  עם סימן: 128- עד 127. | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 030AH | |  | | **MOV** DL , 02H | | תוצאה: |  | | **DIV** DL | | שארית: | | | **9** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 02A0H | |  | | **MOV** DH , 09H | | תוצאה: |  | | **DIV** DH | | שארית: | | | **10** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0550H | |  | | **MOV** DH , 1BH | | תוצאה: |  | | **DIV** DH | | שארית: | | | **11** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0333H | |  | | **MOV** DL , 10H | | תוצאה: |  | | **DIV** DL | | שארית: | | | **12** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1111 | 1110 | 1101 | 1100 | 1011 | 1010 | 1001 | 1000 | 0111 | 0110 | 0101 | 0100 | 0011 | 0010 | 0001 | 0000 | בסיס בינארי | | F  (15) | E  (14) | D  (13) | C  (12) | B  (11) | A  (10) | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | בסיס הקסה**-H** | | | | | | | | | | | | | |
| **תרגול ההוראה :DIV (חילוק ללא סימן - בית)** | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **דוגמה למעבר מ-H לעשרוני** |  | **הקסה -H** | | | | | | | | | **02BCH** | **160** | **161** | **162** | **163** | **164** | **165** | **166** | **167** | | 0\*4096 + 2\*256 + B(11)\*16 + C(12)\*1 = 700 | 1 | 16 | 256 | 4,096 | 65,536 | 1,048,576 | 16,777,216 | 268,435,456 | | | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **דגלים** כן=1 , לא=0 | | | | | AX | | | DX | | **ביצוע ההוראה** | | |
| **OF**  (גלישה) | **CF**  (נשא) | **PF**  (זוגיות) | **SF**  (סימן) | **ZF**  (אפס) | AL | AH | | DL | DH |
| ? | | | | |  |  | |  |  | **א**. המרת האופרנדים לעשרוני.  **ב**. **חילוק**: אם האופרנד בגודל:  בית**: האופרנד AX « AX / . תוצאה | שארית**  מלה: **האופרנד DX:AX**  **AX (תוצאה)DX (שארית)** | 256 **+** שלילי **=** **חיובי**  256 **-** חיובי **=** **שלילי** | |
| **תחום גלישה:**  ללא סימן: 0 עד 255.  עם סימן: 128- עד 127. | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0300H | |  | | **MOV** DL , 06H | | תוצאה: |  | | **DIV** DL | | שארית: | | | **13** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0240H | |  | | **MOV** DH , 0AH | | תוצאה: |  | | **DIV** DH | | שארית: | | | **14** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0500H | |  | | **MOV** DH , 0BH | | תוצאה: |  | | **DIV** DH | | שארית: | | | **15** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :ללא סימן | **MOV** AX , 0311H | |  | | **MOV** DL , 15H | | תוצאה: |  | | **DIV** DL | | שארית: | | | **16** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1111 | 1110 | 1101 | 1100 | 1011 | 1010 | 1001 | 1000 | 0111 | 0110 | 0101 | 0100 | 0011 | 0010 | 0001 | 0000 | בסיס בינארי | | F  (15) | E  (14) | D  (13) | C  (12) | B  (11) | A  (10) | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | בסיס הקסה**-H** | | | | | | | | | | | | | | | | | | | |
| **תרגול ההוראה :DIV (חילוק ללא סימן - מילה)** | | | | | | | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **דוגמה למעבר מ-H לעשרוני** |  | **הקסה -H** | | | | | | | | | **02BCH** | **160** | **161** | **162** | **163** | **164** | **165** | **166** | **167** | | 0\*4096 + 2\*256 + B(11)\*16 + C(12)\*1 = 700 | 1 | 16 | 256 | 4,096 | 65,536 | 1,048,576 | 16,777,216 | 268,435,456 | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **דגלים** כן=1 , לא=0 | | | | | BX | | | | AX | | | | DX | | | **ביצוע ההוראה** | | |
| **OF**  (גלישה) | **CF**  (נשא) | **PF**  (זוגיות) | **SF**  (סימן) | **ZF**  (אפס) | BL | | BH | | AL | | AH | | DL | | DH |
| ? | | | | |  | |  | |  | |  | |  | |  | **א**. המרת האופרנדים לעשרוני.  **ב**. **חילוק**: אם האופרנד בגודל:  בית**: האופרנד AX « AX / . תוצאה | שארית**  מלה: **האופרנד DX:AX**  **AX (תוצאה)DX (שארית)** | 256 **+** שלילי **=** **חיובי**  256 **-** חיובי **=** **שלילי** | |
| **תחום גלישה:**  ללא סימן: 0 עד 255.  עם סימן: 128- עד 127. | |
|  | | | | | | | | | | | | | | | | | | |
| ? | ? | ? | ? | ? |  |  | |  | |  | | 01H | | 00H | | |  |  |  |  | | --- | --- | --- | --- | | 0\*167 + 0\*166+ 0\*165+ 1\*164  + 0\*163+ 0\*162+ 0\*16+2\*1  = 65,536+2= **65,538** | | :ללא סימן | **MOV** DX , 0001H | | **MOV** AX , 0002H | | 5 | | **MOV** BX , 0005H | | תוצאה:  13,107 | 65,538 / 5 = | | **DIV** BX | | שארית:  3 | | | **1** |
|  |  | | 02H | | 00H | |  | |  | |
| 05H | 00H | |  | |  | |  | | | |
|  |  | | תוצאה  33 33h | | | | שארית  00 03h | | | |
|  | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  | |  | |  | |  | | |  |  |  |  | | --- | --- | --- | --- | | \_\*167 + \_\*166+ \_\*165+ \_\*164  + \_\*163+ \_\*162+ \_\*16+\_\*1  = | | :ללא סימן | **MOV** DX , 0002H | | **MOV** AX , 0003H | |  | | **MOV** BX , 0004H | | תוצאה: |  | | **DIV** BX | | שארית: | | | **2** |
|  |  | |  | |  | |  | |  | |
|  |  | |  | |  | |  | | | |
|  |  | | תוצאה | | | | שארית | | | |
|  | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  | |  | |  | |  | | |  |  |  |  | | --- | --- | --- | --- | | \_\*167 + \_\*166+ \_\*165+ \_\*164  + \_\*163+ \_\*162+ \_\*16+\_\*1  = | | :ללא סימן | **MOV** DX , 0002H | | **MOV** AX , 0003H | |  | | **MOV** BX , 0004H | | תוצאה: |  | | **DIV** BX | | שארית: | | | **3** |
|  |  | |  | |  | |  | |  | |
|  |  | |  | |  | |  | | | |
|  |  | | תוצאה | | | | שארית | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1111 | 1110 | 1101 | 1100 | 1011 | 1010 | 1001 | 1000 | 0111 | 0110 | 0101 | 0100 | 0011 | 0010 | 0001 | 0000 | בסיס בינארי | | F  (15) | E  (14) | D  (13) | C  (12) | B  (11) | A  (10) | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | בסיס הקסה**-H** | | | | | | | | | | | | | | | | | | | |
| **תרגול ההוראה :DIV (חילוק ללא סימן - מילה)** | | | | | | | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **דוגמה למעבר מ-H לעשרוני** |  | **הקסה -H** | | | | | | | | | **02BCH** | **160** | **161** | **162** | **163** | **164** | **165** | **166** | **167** | | 0\*4096 + 2\*256 + B(11)\*16 + C(12)\*1 = 700 | 1 | 16 | 256 | 4,096 | 65,536 | 1,048,576 | 16,777,216 | 268,435,456 | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **דגלים** כן=1 , לא=0 | | | | | BX | | | | AX | | | | DX | | | **ביצוע ההוראה** | | |
| **OF**  (גלישה) | **CF**  (נשא) | **PF**  (זוגיות) | **SF**  (סימן) | **ZF**  (אפס) | BL | | BH | | AL | | AH | | DL | | DH |
| ? | | | | |  | |  | |  | |  | |  | |  | **א**. המרת האופרנדים לעשרוני.  **ב**. **חילוק**: אם האופרנד בגודל:  בית**: האופרנד AX « AX / . תוצאה | שארית**  מלה: **האופרנד DX:AX**  **AX (תוצאה)DX (שארית)** | 256 **+** שלילי **=** **חיובי**  256 **-** חיובי **=** **שלילי** | |
| **תחום גלישה:**  ללא סימן: 0 עד 255.  עם סימן: 128- עד 127. | |
|  | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  | |  | |  | |  | | |  |  |  |  | | --- | --- | --- | --- | | \_\*167 + \_\*166+ \_\*165+ \_\*164  + \_\*163+ \_\*162+ \_\*16+\_\*1  = | | :ללא סימן | **MOV** DX , 0002H | | **MOV** AX , 0005H | |  | | **MOV** BX , 0002H | | תוצאה: |  | | **DIV** BX | | שארית: | | | **4** |
|  |  | |  | |  | |  | |  | |
|  |  | |  | |  | |  | | | |
|  |  | | תוצאה | | | | שארית | | | |
|  | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  | |  | |  | |  | | |  |  |  |  | | --- | --- | --- | --- | | \_\*167 + \_\*166+ \_\*165+ \_\*164  + \_\*163+ \_\*162+ \_\*16+\_\*1  = | | :ללא סימן | **MOV** DX , 0003H | | **MOV** AX , 0008H | |  | | **MOV** BX , 0006H | | תוצאה: |  | | **DIV** BX | | שארית: | | | **5** |
|  |  | |  | |  | |  | |  | |
|  |  | |  | |  | |  | | | |
|  |  | | תוצאה | | | | שארית | | | |
|  | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  | |  | |  | |  | | |  |  |  |  | | --- | --- | --- | --- | | \_\*167 + \_\*166+ \_\*165+ \_\*164  + \_\*163+ \_\*162+ \_\*16+\_\*1  = | | :ללא סימן | **MOV** DX , 0005H | | **MOV** AX , 0008H | |  | | **MOV** BX , 0007H | | תוצאה: |  | | **DIV** BX | | שארית: | | | **6** |
|  |  | |  | |  | |  | |  | |
|  |  | |  | |  | |  | | | |
|  |  | | תוצאה | | | | שארית | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1111 | 1110 | 1101 | 1100 | 1011 | 1010 | 1001 | 1000 | 0111 | 0110 | 0101 | 0100 | 0011 | 0010 | 0001 | 0000 | בסיס בינארי | | F  (15) | E  (14) | D  (13) | C  (12) | B  (11) | A  (10) | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | בסיס הקסה**-H** | | | | | | | | | | | | | |
| **תרגול ההוראה :IDIV (חילוק עם סימן - בית)** | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **דוגמה למעבר מ-H לעשרוני** |  | **הקסה -H** | | | | | | | | | **02BCH** | **160** | **161** | **162** | **163** | **164** | **165** | **166** | **167** | | 0\*4096 + 2\*256 + B(11)\*16 + C(12)\*1 = 700 | 1 | 16 | 256 | 4,096 | 65,536 | 1,048,576 | 16,777,216 | 268,435,456 | | | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **דגלים** כן=1 , לא=0 | | | | | AX | | | DX | | **ביצוע ההוראה** | | |
| **OF**  (גלישה) | **CF**  (נשא) | **PF**  (זוגיות) | **SF**  (סימן) | **ZF**  (אפס) | AL | AH | | DL | DH |
| ? | | | | |  |  | |  |  | **א**. המרת האופרנדים לעשרוני.  **ב**. **חילוק**: אם האופרנד בגודל:  בית**: האופרנד AX « AX / . תוצאה | שארית**  מלה: **האופרנד DX:AX**  **AX (תוצאה)DX (שארית)** | 256 **+** שלילי **=** **חיובי**  256 **-** חיובי **=** **שלילי** | |
| **תחום גלישה:**  ללא סימן: 0 עד 255.  עם סימן: 128- עד 127. | |
|  | | | | | | | | | | | | |
| ? | ? | ? | ? | ? | 96H | 00H | |  |  | |  |  |  |  | | --- | --- | --- | --- | | 150 | | :עם סימן | **MOV** AX , 0096H | | -2 | | **MOV** DL , FEH | | תוצאה:  -75(181) | 150 /- 2 = | | **IDIV** DL | | שארית:  0 | | | **1** |
|  | | | FEH |  |
| תוצאה  B5H  (181) | | שארית  00H  (0) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0040H | |  | | **MOV** DL , FCH | | תוצאה: |  | | **IDIV** DL | | שארית: | | | **2** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0100H | |  | | **MOV** DH , FAH | | תוצאה: |  | | **IDIV** DH | | שארית: | | | **3** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0201H | |  | | **MOV** DH , F0H | | תוצאה: |  | | **IDIV** DH | | שארית: | | | **4** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1111 | 1110 | 1101 | 1100 | 1011 | 1010 | 1001 | 1000 | 0111 | 0110 | 0101 | 0100 | 0011 | 0010 | 0001 | 0000 | בסיס בינארי | | F  (15) | E  (14) | D  (13) | C  (12) | B  (11) | A  (10) | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | בסיס הקסה**-H** | | | | | | | | | | | | | |
| **תרגול ההוראה :IDIV (חילוק עם סימן - בית)** | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **דוגמה למעבר מ-H לעשרוני** |  | **הקסה -H** | | | | | | | | | **02BCH** | **160** | **161** | **162** | **163** | **164** | **165** | **166** | **167** | | 0\*4096 + 2\*256 + B(11)\*16 + C(12)\*1 = 700 | 1 | 16 | 256 | 4,096 | 65,536 | 1,048,576 | 16,777,216 | 268,435,456 | | | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **דגלים** כן=1 , לא=0 | | | | | AX | | | DX | | **ביצוע ההוראה** | | |
| **OF**  (גלישה) | **CF**  (נשא) | **PF**  (זוגיות) | **SF**  (סימן) | **ZF**  (אפס) | AL | AH | | DL | DH |
| ? | | | | |  |  | |  |  | **א**. המרת האופרנדים לעשרוני.  **ב**. **חילוק**: אם האופרנד בגודל:  בית**: האופרנד AX « AX / . תוצאה | שארית**  מלה: **האופרנד DX:AX**  **AX (תוצאה)DX (שארית)** | 256 **+** שלילי **=** **חיובי**  256 **-** חיובי **=** **שלילי** | |
| **תחום גלישה:**  ללא סימן: 0 עד 255.  עם סימן: 128- עד 127. | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0300H | |  | | **MOV** DL , F6H | | תוצאה: |  | | **IDIV** DL | | שארית: | | | **5** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0240H | |  | | **MOV** DH , FAH | | תוצאה: |  | | **IDIV** DH | | שארית: | | | **6** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0500H | |  | | **MOV** DH , FBH | | תוצאה: |  | | **IDIV** DH | | שארית: | | | **7** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0311H | |  | | **MOV** DL , F5H | | תוצאה: |  | | **IDIV** DL | | שארית: | | | **8** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1111 | 1110 | 1101 | 1100 | 1011 | 1010 | 1001 | 1000 | 0111 | 0110 | 0101 | 0100 | 0011 | 0010 | 0001 | 0000 | בסיס בינארי | | F  (15) | E  (14) | D  (13) | C  (12) | B  (11) | A  (10) | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | בסיס הקסה**-H** | | | | | | | | | | | | | |
| **תרגול ההוראה :IDIV (חילוק עם סימן - בית)** | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **דוגמה למעבר מ-H לעשרוני** |  | **הקסה -H** | | | | | | | | | **02BCH** | **160** | **161** | **162** | **163** | **164** | **165** | **166** | **167** | | 0\*4096 + 2\*256 + B(11)\*16 + C(12)\*1 = 700 | 1 | 16 | 256 | 4,096 | 65,536 | 1,048,576 | 16,777,216 | 268,435,456 | | | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **דגלים** כן=1 , לא=0 | | | | | AX | | | DX | | **ביצוע ההוראה** | | |
| **OF**  (גלישה) | **CF**  (נשא) | **PF**  (זוגיות) | **SF**  (סימן) | **ZF**  (אפס) | AL | AH | | DL | DH |
| ? | | | | |  |  | |  |  | **א**. המרת האופרנדים לעשרוני.  **ב**. **חילוק**: אם האופרנד בגודל:  בית**: האופרנד AX « AX / . תוצאה | שארית**  מלה: **האופרנד DX:AX**  **AX (תוצאה)DX (שארית)** | 256 **+** שלילי **=** **חיובי**  256 **-** חיובי **=** **שלילי** | |
| **תחום גלישה:**  ללא סימן: 0 עד 255.  עם סימן: 128- עד 127. | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 030AH | |  | | **MOV** DL , F2H | | תוצאה: |  | | **IDIV** DL | | שארית: | | | **9** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 02A0H | |  | | **MOV** DH , F9H | | תוצאה: |  | | **IDIV** DH | | שארית: | | | **10** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0550H | |  | | **MOV** DH , FBH | | תוצאה: |  | | **IDIV** DH | | שארית: | | | **11** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0333H | |  | | **MOV** DL , F0H | | תוצאה: |  | | **IDIV** DL | | שארית: | | | **12** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1111 | 1110 | 1101 | 1100 | 1011 | 1010 | 1001 | 1000 | 0111 | 0110 | 0101 | 0100 | 0011 | 0010 | 0001 | 0000 | בסיס בינארי | | F  (15) | E  (14) | D  (13) | C  (12) | B  (11) | A  (10) | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | בסיס הקסה**-H** | | | | | | | | | | | | | |
| **תרגול ההוראה :IDIV (חילוק עם סימן - בית)** | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **דוגמה למעבר מ-H לעשרוני** |  | **הקסה -H** | | | | | | | | | **02BCH** | **160** | **161** | **162** | **163** | **164** | **165** | **166** | **167** | | 0\*4096 + 2\*256 + B(11)\*16 + C(12)\*1 = 700 | 1 | 16 | 256 | 4,096 | 65,536 | 1,048,576 | 16,777,216 | 268,435,456 | | | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **דגלים** כן=1 , לא=0 | | | | | AX | | | DX | | **ביצוע ההוראה** | | |
| **OF**  (גלישה) | **CF**  (נשא) | **PF**  (זוגיות) | **SF**  (סימן) | **ZF**  (אפס) | AL | AH | | DL | DH |
| ? | | | | |  |  | |  |  | **א**. המרת האופרנדים לעשרוני.  **ב**. **חילוק**: אם האופרנד בגודל:  בית**: האופרנד AX « AX / . תוצאה | שארית**  מלה: **האופרנד DX:AX**  **AX (תוצאה)DX (שארית)** | 256 **+** שלילי **=** **חיובי**  256 **-** חיובי **=** **שלילי** | |
| **תחום גלישה:**  ללא סימן: 0 עד 255.  עם סימן: 128- עד 127. | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0300H | |  | | **MOV** DL , F6H | | תוצאה: |  | | **IDIV** DL | | שארית: | | | **13** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0240H | |  | | **MOV** DH , FAH | | תוצאה: |  | | **IDIV** DH | | שארית: | | | **14** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0500H | |  | | **MOV** DH , FBH | | תוצאה: |  | | **IDIV** DH | | שארית: | | | **15** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |
|  | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  |  | |  |  |  |  | | --- | --- | --- | --- | |  | | :עם סימן | **MOV** AX , 0311H | |  | | **MOV** DL , F5H | | תוצאה: |  | | **IDIV** DL | | שארית: | | | **16** |
|  | | |  |  |
| תוצאה    ( ) | | שארית    ( ) |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1111 | 1110 | 1101 | 1100 | 1011 | 1010 | 1001 | 1000 | 0111 | 0110 | 0101 | 0100 | 0011 | 0010 | 0001 | 0000 | בסיס בינארי | | F  (15) | E  (14) | D  (13) | C  (12) | B  (11) | A  (10) | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | בסיס הקסה**-H** | | | | | | | | | | | | | | | | | | | |
| **תרגול ההוראה :IDIV (חילוק עם סימן - מילה)** | | | | | | | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **דוגמה למעבר מ-H לעשרוני** |  | **הקסה -H** | | | | | | | | | **02BCH** | **160** | **161** | **162** | **163** | **164** | **165** | **166** | **167** | | 0\*4096 + 2\*256 + B(11)\*16 + C(12)\*1 = 700 | 1 | 16 | 256 | 4,096 | 65,536 | 1,048,576 | 16,777,216 | 268,435,456 | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **דגלים** כן=1 , לא=0 | | | | | BX | | | | AX | | | | DX | | | **ביצוע ההוראה** | | |
| **OF**  (גלישה) | **CF**  (נשא) | **PF**  (זוגיות) | **SF**  (סימן) | **ZF**  (אפס) | BL | | BH | | AL | | AH | | DL | | DH |
| ? | | | | |  | |  | |  | |  | |  | |  | **א**. המרת האופרנדים לעשרוני.  **ב**. **חילוק**: אם האופרנד בגודל:  בית**: האופרנד AX « AX / . תוצאה | שארית**  מלה: **האופרנד DX:AX**  **AX (תוצאה)DX (שארית)** | 256 **+** שלילי **=** **חיובי**  256 **-** חיובי **=** **שלילי** | |
| **תחום גלישה:**  ללא סימן: 0 עד 255.  עם סימן: 128- עד 127. | |
|  | | | | | | | | | | | | | | | | | | |
| ? | ? | ? | ? | ? |  |  | |  | |  | | 01H | | 00H | | |  |  |  |  | | --- | --- | --- | --- | | 0\*167 + 0\*166+ 0\*165+ 1\*164  + 0\*163+ 0\*162+ 0\*16+2\*1  = 65,536+2= **65,538** | | :עם סימן | **MOV** DX , 0001H | | **MOV** AX , 0002H | | -2 | | **MOV** BX , FFFEH | | תוצאה:  -32,769  (32,767) | 65,538 / -2 = | | **IDIV** BX | | שארית:  0 | | | **1** |
|  |  | | 02H | | 00H | |  | |  | |
| 05H | 00H | |  | |  | |  | | | |
|  |  | | תוצאה  7F FFh | | | | שארית  00 00h | | | |
|  | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  | |  | |  | |  | | |  |  |  |  | | --- | --- | --- | --- | | \_\*167 + \_\*166+ \_\*165+ \_\*164  + \_\*163+ \_\*162+ \_\*16+\_\*1  = | | :עם סימן | **MOV** DX , 0002H | | **MOV** AX , 0003H | |  | | **MOV** BX , FFFCH | | תוצאה: |  | | **IDIV** BX | | שארית: | | | **2** |
|  |  | |  | |  | |  | |  | |
|  |  | |  | |  | |  | | | |
|  |  | | תוצאה | | | | שארית | | | |
|  | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  | |  | |  | |  | | |  |  |  |  | | --- | --- | --- | --- | | \_\*167 + \_\*166+ \_\*165+ \_\*164  + \_\*163+ \_\*162+ \_\*16+\_\*1  = | | :עם סימן | **MOV** DX , 0002H | | **MOV** AX , 0003H | |  | | **MOV** BX , FFFDH | | תוצאה: |  | | **IDIV** BX | | שארית: | | | **3** |
|  |  | |  | |  | |  | |  | |
|  |  | |  | |  | |  | | | |
|  |  | | תוצאה | | | | שארית | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1111 | 1110 | 1101 | 1100 | 1011 | 1010 | 1001 | 1000 | 0111 | 0110 | 0101 | 0100 | 0011 | 0010 | 0001 | 0000 | בסיס בינארי | | F  (15) | E  (14) | D  (13) | C  (12) | B  (11) | A  (10) | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | בסיס הקסה**-H** | | | | | | | | | | | | | | | | | | | |
| **תרגול ההוראה :IDIV (חילוק עם סימן - מילה)** | | | | | | | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **דוגמה למעבר מ-H לעשרוני** |  | **הקסה -H** | | | | | | | | | **02BCH** | **160** | **161** | **162** | **163** | **164** | **165** | **166** | **167** | | 0\*4096 + 2\*256 + B(11)\*16 + C(12)\*1 = 700 | 1 | 16 | 256 | 4,096 | 65,536 | 1,048,576 | 16,777,216 | 268,435,456 | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **דגלים** כן=1 , לא=0 | | | | | BX | | | | AX | | | | DX | | | **ביצוע ההוראה** | | |
| **OF**  (גלישה) | **CF**  (נשא) | **PF**  (זוגיות) | **SF**  (סימן) | **ZF**  (אפס) | BL | | BH | | AL | | AH | | DL | | DH |
| ? | | | | |  | |  | |  | |  | |  | |  | **א**. המרת האופרנדים לעשרוני.  **ב**. **חילוק**: אם האופרנד בגודל:  בית**: האופרנד AX « AX / . תוצאה | שארית**  מלה: **האופרנד DX:AX**  **AX (תוצאה)DX (שארית)** | 256 **+** שלילי **=** **חיובי**  256 **-** חיובי **=** **שלילי** | |
| **תחום גלישה:**  ללא סימן: 0 עד 255.  עם סימן: 128- עד 127. | |
|  | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  | |  | |  | |  | | |  |  |  |  | | --- | --- | --- | --- | | \_\*167 + \_\*166+ \_\*165+ \_\*164  + \_\*163+ \_\*162+ \_\*16+\_\*1  = | | :עם סימן | **MOV** DX , 0002H | | **MOV** AX , 0005H | |  | | **MOV** BX , FFFAH | | תוצאה: |  | | **IDIV** BX | | שארית: | | | **4** |
|  |  | |  | |  | |  | |  | |
|  |  | |  | |  | |  | | | |
|  |  | | תוצאה | | | | שארית | | | |
|  | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  | |  | |  | |  | | |  |  |  |  | | --- | --- | --- | --- | | \_\*167 + \_\*166+ \_\*165+ \_\*164  + \_\*163+ \_\*162+ \_\*16+\_\*1  = | | :עם סימן | **MOV** DX , 0003H | | **MOV** AX , 0008H | |  | | **MOV** BX , FFFEH | | תוצאה: |  | | **IDIV** BX | | שארית: | | | **5** |
|  |  | |  | |  | |  | |  | |
|  |  | |  | |  | |  | | | |
|  |  | | תוצאה | | | | שארית | | | |
|  | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  | |  | |  | |  | |  | | |  |  |  |  | | --- | --- | --- | --- | | \_\*167 + \_\*166+ \_\*165+ \_\*164  + \_\*163+ \_\*162+ \_\*16+\_\*1  = | | :עם סימן | **MOV** DX , 0005H | | **MOV** AX , 0008H | |  | | **MOV** BX , FFF0H | | תוצאה: |  | | **IDIV** BX | | שארית: | | | **6** |
|  |  | |  | |  | |  | |  | |
|  |  | |  | |  | |  | | | |
|  |  | | תוצאה | | | | שארית | | | |