# 21F-9323

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**MASM Task with Debugger**

**Task 1: what is Origin? [3]**

Origin is the space in RAM specified by you from where you want to start programming.

**Task 2: Calculate Physical Address with Following values. [3]**

1. **DS = 073F and SI = 0030** = 07430
2. **CS = 08D3 and IP = 0160** = 08E90

**Task 3: Display the contents of the defined memory locations 120, 133, 122 using D command and fill following table. [3]**

|  |  |
| --- | --- |
| **Memory Location** | **Value** |
| **[120]** | 00 |
| **[133]** | 00 |
| **[122]** | 00 |

**Task 4: Edit the contents of the defined memory locations 120, 133, 122 using e command and also display, also fill following table. [3]**

|  |  |
| --- | --- |
| **Memory Location** | **Value** |
| **[120]** | 30 |
| **[133]** | 40 |
| **[122]** | 50 |

**Task 5: Subtract the content of 120 location by 133 and then store the result in the120 location. [3]**

mov ax,[120]

mov bx,[133]

sub ax,bx

**NASM Tasks**

**Task1: Write assembly language code to add 2 number and also fill the following table: [5]**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Assembly Code** | **Machine Code** | **No. of Bytes** | **AX** | **BX** | **CS** | **IP** |
| mov ax, 0005 | B80500 | 2 | 0005 | 0000 | 19F5 | 0100 |
| mov bx,000a | BB0A00 | 2 | 0005 | 000A | 19F5 | 0103 |
| add ax,bx | 01D8 | 2 | 0005 | 000A | 19F5 | 0106 |
|  |  |  |  |  |  |  |

**Task2: Write assembly language code to subtract 2 number and also fill the following table: [5]**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Assembly Code** | **Machine Code** | **No. of Bytes** | **AX** | **BX** | **CS** | **IP** |
| Mov ax,0005 | B80500 | 2 | 0005 | 0000 | 19F5 | 0103 |
| Mov bx, 0003 | BB0200 | 2 | 0005 | 0003 | 19F5 | 0106 |
| Sub ax,bx | 29DS | 2 | 0005 | 0003 | 19F5 | 0108 |
|  |  |  |  |  |  |  |

**Task3: Write assembly language code to swap 2 number and also fill the following table: [5]**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Assembly Code** | **Machine Code** | **No. of Bytes** | **AX** | **BX** | **CS** | **IP** |
| Mov ax, 0005 | B80500 | 2 | 0005 | 0000 | 19F5 | 0100 |
| Mov bx, 0002 | BB0200 | 2 | 0005 | 0003 | 19F5 | 0103 |
| Mov cx,bx | 89C1 | 2 | 0005 | 0002 | 19F5 | 0106 |
| Mov ax,bx | 89DP | 2 | 0002 | 0002 | 19F5 | 0108 |
| Mov bx,cx | 89CB | 2 | 0002 | 0005 | 29F5 | 01A |