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```

```
AL = [Bit 7, Bit 6 | Bit 5, Bit 4 | Bit 3, Bit 2 | Bit 1, Bit 0]
```

(Use as many lines as needed)

```
Line 1: ____________________________
Line 6: ____________________________
```

```

```

1(b). 8088 microprocessors have ______ bit address bus.

1(c). The following instruction is valid or invalid: MOV AX,IP ➔ ____________
2(a). Write a program that will perform the following integer multiplication, ‘- AL’ * ‘- BL’ and store the answer in memory location DS:0020H

(Use as many lines as needed)

2(b) Using one line of code, load the contents of memory location ES:123A_H into the extra segment register (ES) of the microprocessor.

2(c). The DEBUG command used to view the machine code of any assembly language instruction is: _____________________
3(a) Find the values of the register's, as you execute each line of the program. Assume the initial values are: AX= 1234H, BX=5F88H, CX=1403H, DX=0125H, SI=003BH, ZF=NZ, PF=PO and CF=CY

<table>
<thead>
<tr>
<th>Instruction</th>
<th>AX Value</th>
<th>BX Value</th>
<th>DX Value</th>
<th>AL Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEA AX, [5678H]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBB BX, CX</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RCR DX, CL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3(b). Assume, DS=CS=SS=ES=2000H, AX=0400H, BX=0500H, CX=0600H, DX=0600H, SI=0700H, DI=0400H, BP=0020H, SP=0AF0H,

(i) Write a program to load AX register with the word content of physical-Address, 20C62H, using Based-indexed addressing mode.

(ii) Write a program to exchange the contents of AX-register and CS-register

(Use as many lines as needed)