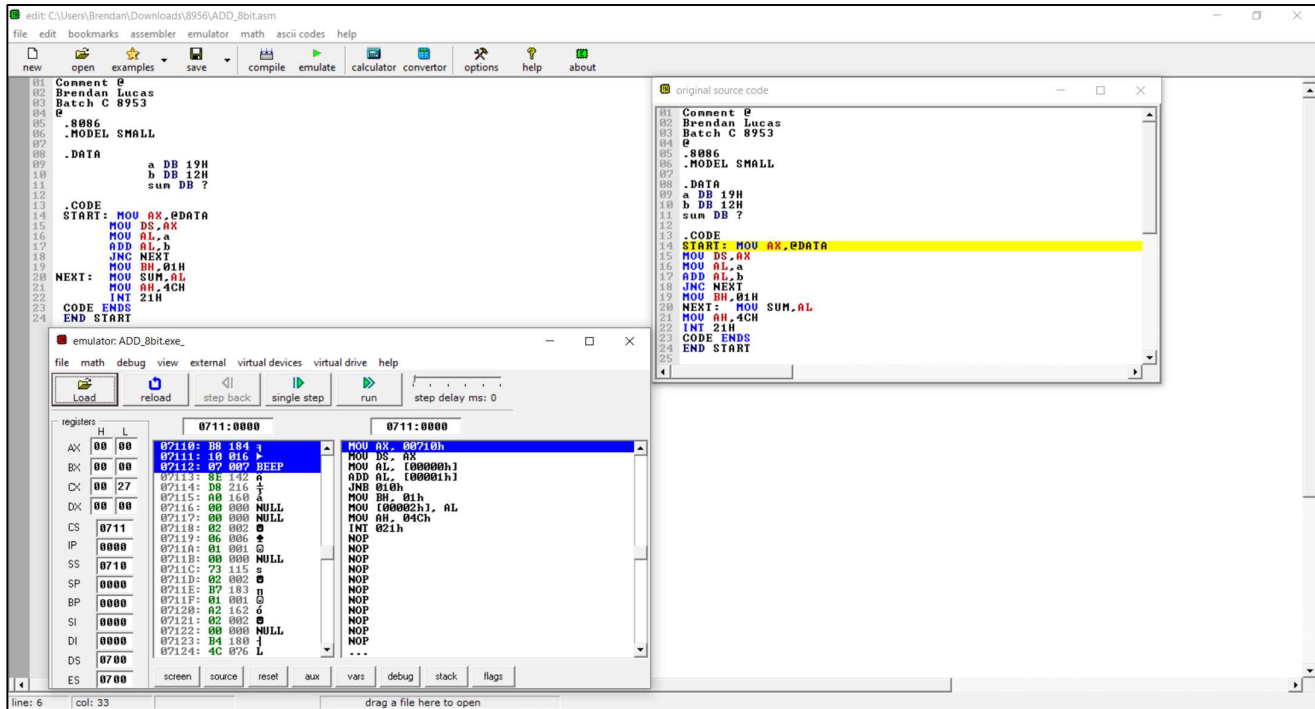


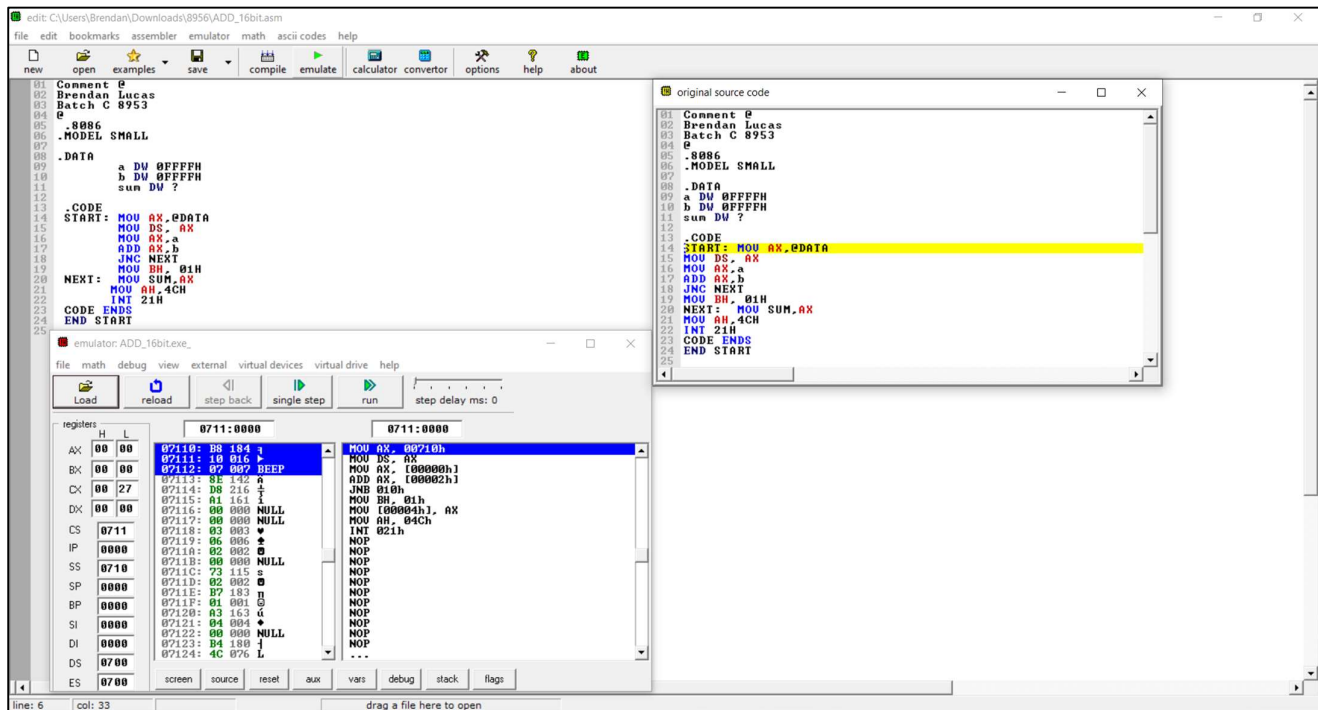
Name: Brendan Lucas, Div: SE COMP B, Roll No: 8953

Micro Processor Practical.

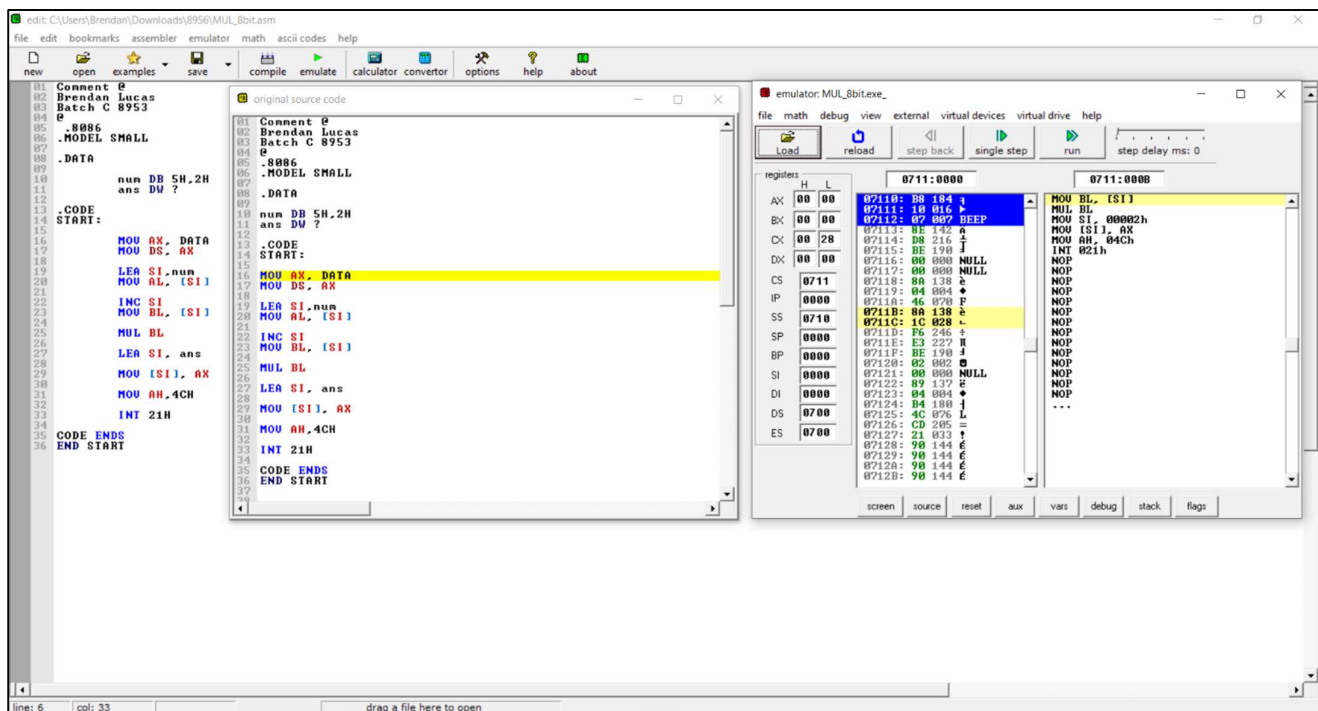
1. Addition of two 8-bit numbers:



2. Addition of two 16-bit numbers:



3. Multiplication of two 8-bit numbers:



4. Multiplication of two 16-bit numbers:

The screenshot displays an x86 assembler and emulator window. The main window shows the assembly code for a program that multiplies two 16-bit numbers. The code is as follows:

```
01 Comment @
02 Brendan Lucas
03 Batch C 8953
04 @
05 .8086
06 .MODEL SMALL
07
08 .DATA
09     num DW 8342h, 7124h
10     ans DD ?
11
12 .CODE
13 START:
14     MOV AX, DATA
15     MOV DS, AX
16     LEA SI, num
17     MOV AX, [SI]
18     INC SI
19     INC SI
20     MOV BX, [SI]
21     INC SI
22     MUL BX
23     LEA SI, ans
24     MOV [SI], AX
25     MOV [SI+2], DX
26     MOV AH, 4Ch
27     INT 21h
28
29 CODE ENDS END START
```

The emulator window shows the execution of the program. The registers are displayed on the left, and the memory dump is on the right. The program is running at address 0711:0000. The registers show the following values:

Register	Value
AX	00 00
BX	00 00
CX	00 2D
DX	00 00
SI	0711
DI	0000
DS	0700
ES	0700

The memory dump shows the following values:

Address	Value
0711:0000	0711:0000
0711:0001	0711:0001
0711:0002	0711:0002
0711:0003	0711:0003
0711:0004	0711:0004
0711:0005	0711:0005
0711:0006	0711:0006
0711:0007	0711:0007
0711:0008	0711:0008
0711:0009	0711:0009
0711:000A	0711:000A
0711:000B	0711:000B
0711:000C	0711:000C
0711:000D	0711:000D
0711:000E	0711:000E
0711:000F	0711:000F
0711:0010	0711:0010
0711:0011	0711:0011
0711:0012	0711:0012
0711:0013	0711:0013
0711:0014	0711:0014
0711:0015	0711:0015
0711:0016	0711:0016
0711:0017	0711:0017
0711:0018	0711:0018
0711:0019	0711:0019
0711:001A	0711:001A
0711:001B	0711:001B
0711:001C	0711:001C
0711:001D	0711:001D
0711:001E	0711:001E
0711:001F	0711:001F
0711:0020	0711:0020
0711:0021	0711:0021
0711:0022	0711:0022
0711:0023	0711:0023
0711:0024	0711:0024
0711:0025	0711:0025
0711:0026	0711:0026
0711:0027	0711:0027
0711:0028	0711:0028
0711:0029	0711:0029
0711:002A	0711:002A
0711:002B	0711:002B
0711:002C	0711:002C
0711:002D	0711:002D
0711:002E	0711:002E
0711:002F	0711:002F
0711:0030	0711:0030
0711:0031	0711:0031
0711:0032	0711:0032
0711:0033	0711:0033
0711:0034	0711:0034
0711:0035	0711:0035
0711:0036	0711:0036
0711:0037	0711:0037
0711:0038	0711:0038
0711:0039	0711:0039
0711:003A	0711:003A
0711:003B	0711:003B
0711:003C	0711:003C
0711:003D	0711:003D
0711:003E	0711:003E
0711:003F	0711:003F
0711:0040	0711:0040
0711:0041	0711:0041
0711:0042	0711:0042
0711:0043	0711:0043
0711:0044	0711:0044
0711:0045	0711:0045
0711:0046	0711:0046
0711:0047	0711:0047
0711:0048	0711:0048
0711:0049	0711:0049
0711:004A	0711:004A
0711:004B	0711:004B
0711:004C	0711:004C
0711:004D	0711:004D
0711:004E	0711:004E
0711:004F	0711:004F
0711:0050	0711:0050
0711:0051	0711:0051
0711:0052	0711:0052
0711:0053	0711:0053
0711:0054	0711:0054
0711:0055	0711:0055
0711:0056	0711:0056
0711:0057	0711:0057
0711:0058	0711:0058
0711:0059	0711:0059
0711:005A	0711:005A
0711:005B	0711:005B
0711:005C	0711:005C
0711:005D	0711:005D
0711:005E	0711:005E
0711:005F	0711:005F
0711:0060	0711:0060
0711:0061	0711:0061
0711:0062	0711:0062
0711:0063	0711:0063
0711:0064	0711:0064
0711:0065	0711:0065
0711:0066	0711:0066
0711:0067	0711:0067
0711:0068	0711:0068
0711:0069	0711:0069
0711:006A	0711:006A
0711:006B	0711:006B
0711:006C	0711:006C
0711:006D	0711:006D
0711:006E	0711:006E
0711:006F	0711:006F
0711:0070	0711:0070
0711:0071	0711:0071
0711:0072	0711:0072
0711:0073	0711:0073
0711:0074	0711:0074
0711:0075	0711:0075
0711:0076	0711:0076
0711:0077	0711:0077
0711:0078	0711:0078
0711:0079	0711:0079
0711:007A	0711:007A
0711:007B	0711:007B
0711:007C	0711:007C
0711:007D	0711:007D
0711:007E	0711:007E
0711:007F	0711:007F
0711:0080	0711:0080
0711:0081	0711:0081
0711:0082	0711:0082
0711:0083	0711:0083
0711:0084	0711:0084
0711:0085	0711:0085
0711:0086	0711:0086
0711:0087	0711:0087
0711:0088	0711:0088
0711:0089	0711:0089
0711:008A	0711:008A
0711:008B	0711:008B
0711:008C	0711:008C
0711:008D	0711:008D
0711:008E	0711:008E
0711:008F	0711:008F
0711:0090	0711:0090
0711:0091	0711:0091
0711:0092	0711:0092
0711:0093	0711:0093
0711:0094	0711:0094
0711:0095	0711:0095
0711:0096	0711:0096
0711:0097	0711:0097
0711:0098	0711:0098
0711:0099	0711:0099
0711:009A	0711:009A
0711:009B	0711:009B
0711:009C	0711:009C
0711:009D	0711:009D
0711:009E	0711:009E
0711:009F	0711:009F
0711:00A0	0711:00A0
0711:00A1	0711:00A1
0711:00A2	0711:00A2
0711:00A3	0711:00A3
0711:00A4	0711:00A4
0711:00A5	0711:00A5
0711:00A6	0711:00A6
0711:00A7	0711:00A7
0711:00A8	0711:00A8
0711:00A9	0711:00A9
0711:00AA	0711:00AA
0711:00AB	0711:00AB
0711:00AC	0711:00AC
0711:00AD	0711:00AD
0711:00AE	0711:00AE
0711:00AF	0711:00AF
0711:00B0	0711:00B0
0711:00B1	0711:00B1
0711:00B2	0711:00B2
0711:00B3	0711:00B3
0711:00B4	0711:00B4
0711:00B5	0711:00B5
0711:00B6	0711:00B6
0711:00B7	0711:00B7
0711:00B8	0711:00B8
0711:00B9	0711:00B9
0711:00BA	0711:00BA
0711:00BB	0711:00BB
0711:00BC	0711:00BC
0711:00BD	0711:00BD
0711:00BE	0711:00BE
0711:00BF	0711:00BF
0711:00C0	0711:00C0
0711:00C1	0711:00C1
0711:00C2	0711:00C2
0711:00C3	0711:00C3
0711:00C4	0711:00C4
0711:00C5	0711:00C5
0711:00C6	0711:00C6
0711:00C7	0711:00C7
0711:00C8	0711:00C8
0711:00C9	0711:00C9
0711:00CA	0711:00CA
0711:00CB	0711:00CB
0711:00CC	0711:00CC
0711:00CD	0711:00CD
0711:00CE	0711:00CE
0711:00CF	0711:00CF
0711:00D0	0711:00D0
0711:00D1	0711:00D1
0711:00D2	0711:00D2
0711:00D3	0711:00D3
0711:00D4	0711:00D4
0711:00D5	0711:00D5
0711:00D6	0711:00D6
0711:00D7	0711:00D7
0711:00D8	0711:00D8
0711:00D9	0711:00D9
0711:00DA	0711:00DA
0711:00DB	0711:00DB
0711:00DC	0711:00DC
0711:00DD	0711:00DD
0711:00DE	0711:00DE
0711:00DF	0711:00DF
0711:00E0	0711:00E0
0711:00E1	0711:00E1
0711:00E2	0711:00E2
0711:00E3	0711:00E3
0711:00E4	0711:00E4
0711:00E5	0711:00E5
0711:00E6	0711:00E6
0711:00E7	0711:00E7
0711:00E8	0711:00E8
0711:00E9	0711:00E9
0711:00EA	0711:00EA
0711:00EB	0711:00EB
0711:00EC	0711:00EC
0711:00ED	0711:00ED
0711:00EE	0711:00EE
0711:00EF	0711:00EF
0711:00F0	0711:00F0
0711:00F1	0711:00F1
0711:00F2	0711:00F2
0711:00F3	0711:00F3
0711:00F4	0711:00F4
0711:00F5	0711:00F5
0711:00F6	0711:00F6
0711:00F7	0711:00F7
0711:00F8	0711:00F8
0711:00F9	0711:00F9
0711:00FA	0711:00FA
0711:00FB	0711:00FB
0711:00FC	0711:00FC
0711:00FD	0711:00FD
0711:00FE	0711:00FE
0711:00FF	0711:00FF

5. Subtraction of two 8-bit numbers:

The screenshot displays an x86 assembler and emulator window. The main window shows the assembly code for a program that subtracts two 8-bit numbers. The code is as follows:

```
01 Comment @
02 Brendan Lucas
03 Batch C 8953
04 @
05 .8086
06 .MODEL SMALL
07
08 .DATA
09     a DB 20h
10     b DB 45h
11     diff DB ?
12
13 .CODE
14 START:
15     MOV AX, 0000h
16     MOV DS, AX
17     MOV AL, a
18     SUB AL, b
19     MOV diff, AL
20     MOV AH, 4Ch
21     INT 21h
22
23 CODE ENDS END START
```

The emulator window shows the execution of the program. The registers are displayed on the left, and the memory dump is on the right. The program is running at address 0711:0000. The registers show the following values:

Register	Value
AX	00 00
BX	00 00
CX	00 23
DX	00 00
SI	0711
DI	0000
DS	0700
ES	0700

The memory dump shows the following values:

Address	Value
0711:0000	0711:0000
0711:0001	0711:0001
0711:0002	0711:0002
0711:0003	0711:0003
0711:0004	0711:0004
0711:0005	0711:0005
0711:0006	0711:0006
0711:0007	0711:0007
0711:0008	0711:0008
0711:0009	0711:0009
0711:000A	0711:000A
0711:000B	0711:000B
0711:000C	0711:000C
0711:000D	0711:000D
0711:000E	0711:000E
0711:000F	0711:000F
0711:0010	0711:0010
0711:0011	0711:0011
0711:0012	0711:0012
0711:0013	0711:0013
0711:0014	0711:0014
0711:0015	0711:0015
0711:0016	0711:0016
0711:0017	0711:0017
0711:0018	0711:0018
0711:0019	0711:0019
0711:001A	0711:001A
0711:001B	0711:001B
0711:001C	0711:001C
0711:001D	0711:001D
0711:001E	0711:001E
0711:001F	0711:001F
0711:0020	0711:0020
0711:0021	0711:0021
0711:0022	0711:0022
0711:0023	0711:0023
0711:0024	0711:0024
0711:0025	0711:0025
0711:0026	0711:0026
0711:0027	0711:0027
0711:0028	0711:0028
0711:0029	0711:0029
0711:002A	0711:002A
0711:002B	0711:002B
0711:002C	0711:002C
0711:002D	0711:002D
0711:002E	0711:002E
0711:002F	0711:002F
0711:0030	0711:0030
0711:0031	0711:0031
0711:0032	0711:0032
0711:0033	0711:0033
0711:0034	0711:0034
0711:0035	0711:0035
0711:0036	0711:0036
0711:0037	0711:0037
0711:0038	0711:0038
0711:0039	0711:0039
0711:003A	0711:003A
0711:003B	0711:003B
0711:003C	0711:003C
0711:003D	0711:003D
0711:003E	0711:003E
0711:003F	0711:003F
0711:0040	0711:0040
0711:0041	0711:0041
0711:0042	0711:0042
0711:0043	0711:0043
0711:0044	0711:0044
0711:0045	0711:0045
0711:0046	0711:0046
0711:0047	0711:0047
0711:0048	0711:0048
0711:0049	0711:0049
0711:004A	0711:004A
0711:004B	0711:004B
0711:004C	0711:004C
0711:004D	0711:004D
0711:004E	0711:004E
0711:004F	0711:004F
0711:0050	0711:0050
0711:0051	0711:0051
0711:0052	0711:0052
0711:0053	0711:0053
0711:0054	0711:0054
0711:0055	0711:0055
0711:0056	0711:0056
0711:0057	0711:0057
0711:0058	0711:0058
0711:0059	0711:0059
0711:005A	0711:005A
0711:005B	0711:005B
0711:005C	0711:005C
0711:005D	0711:005D
0711:005E	0711:005E