Hand Assembly Demo: Assembly Program

After the hand assembly, I moved to MS-DOS prompt to type all the things needed to input shown in figure 1. I entered from memory location 100 with the hexadecimal values from the hand assembly. I also entered the ASCII message for the program to output starting in memory locations 460 and 490. On the other hand, the memory location 456 use for storing the number of loops. Finally, I entered the values 05 and 09 to memory locations 454 and 455.

```
-E100
0F68:0100  BA.BA   60.60   04.04   B4.B4   09.09   CD.CD   21.21   BA.BA
0F68:0108  90.90   04.04   B4.B4   09.09   CD.CD   21.21   B3.B3   20.20
0F68:0110  8A.8A   0E.0E   54.54   04.04   8A.8A   16.16   55.55   04.04
0F68:0118  28.28   D1.D1   7D.7D   08.08   FE.FE   06.06   56.56   04.04
0F68:0120  00.00   D9.D9   EB.EB   F6.F6   88.88   0E.0E   54.54   04.04
0F68:0128  BA.BA   56.56   04.04   B4.B4   09.09   CD.CD   21.21   CD.CD
0F68:0130  20.20
-
-E460 "Hello, My name is Vigomar Kim Algador" 0d 0a "$"
-
-E490 "Welcome to EEE174 / CpE185-LAB01 PART02 " 0d 0a "$"
-
-E456 30 0d 0a "$"
-
-E454
0F68:0454  1C.05   09.09
```

Figure 1. the whole information entered to the program.

Before running the program, I made sure that the data entered were correct with the use of dump command. I used dump command for memory locations 454, 455, 460 and 490 shown in figure 2.

```
-d454 455
0F68:0450              05 09                                              ..
-d460
0F68:0460  48 65 6C 6C 6F 2C 20 4D-79 20 6E 61 6D 65 20 69   Hello, My name i
0F68:0470  73 20 56 69 67 6F 6D 61-72 20 4B 69 6D 20 41 6C   s Vigomar Kim Al
0F68:0480  67 61 64 6F 72 0D 0A 24-33 ED AC 0A C0 74 03 45   gador..$3....t.E
0F68:0490  57 65 6C 63 6F 6D 65 20-74 6F 20 45 45 45 31 37   Welcome to EEE17
0F68:04A0  34 20 2F 20 43 70 45 31-38 35 2D 4C 41 42 30 31   4 / CpE185-LAB01
0F68:04B0  20 50 41 52 54 30 32 20-0D 0A 24 00 74 1C 80 3C    PART02 ..$.t..<
0F68:04C0  2E 74 47 83 3E DD E2 02-75 0A 80 3E E4 E3 3A 75   .tG.>...u..>..:u
0F68:04D0  03 E8 34 FF 5D 5A 59 5F-5E C3 83 3E DD E2 02 75   ..4.]ZY_^..>...u
-d490
0F68:0490  57 65 6C 63 6F 6D 65 20-74 6F 20 45 45 45 31 37   Welcome to EEE17
0F68:04A0  34 20 2F 20 43 70 45 31-38 35 2D 4C 41 42 30 31   4 / CpE185-LAB01
0F68:04B0  20 50 41 52 54 30 32 20-0D 0A 24 00 74 1C 80 3C    PART02 ..$.t..<
0F68:04C0  2E 74 47 83 3E DD E2 02-75 0A 80 3E E4 E3 3A 75   .tG.>...u..>..:u
0F68:04D0  03 E8 34 FF 5D 5A 59 5F-5E C3 83 3E DD E2 02 75   ..4.]ZY_^..>...u
0F68:04E0  0B 80 7C 01 3A 75 05 E8-1E FF EB E8 03 F5 80 3E   ..|.:u.........>
0F68:04F0  DB E2 00 74 06 F7 C2 06-00 75 D9 C7 04 2E 2A C6   ...t.....u....*.
0F68:0500  44 02 00 83 06 DD E2 02-EB CA 03 F5 41 8B FE 47   D...........A..G
```

Figure 2. the content of the memory locations 454, 455, 460, 490.

After securing the correct data for the memory locations, I then checked the assembly program by using unassembled command. Here is the unassembled of the assembly program in figure 3.

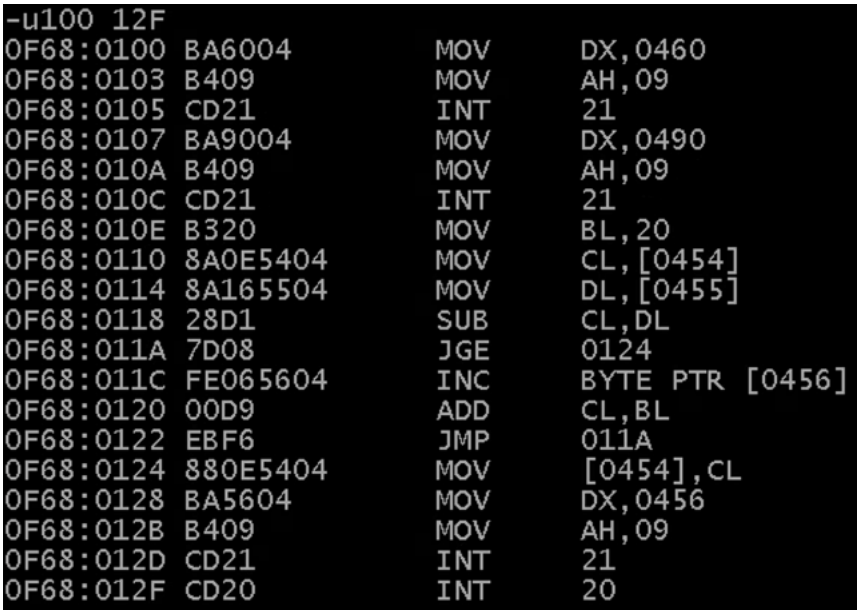

Figure 3. The list of unassembled program from memory location 0100 to 012F.

After checking everything, I now run the program using the go command. I entered "g=100" as I run from the memory location "100". The output shown in figure 4.

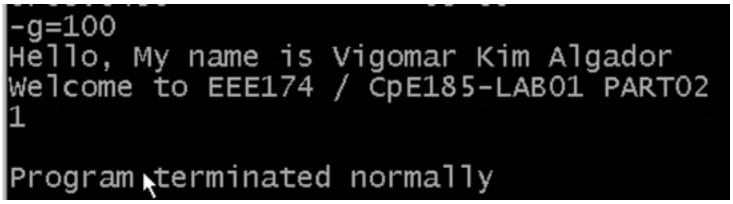

Figure 4. The output of the program.