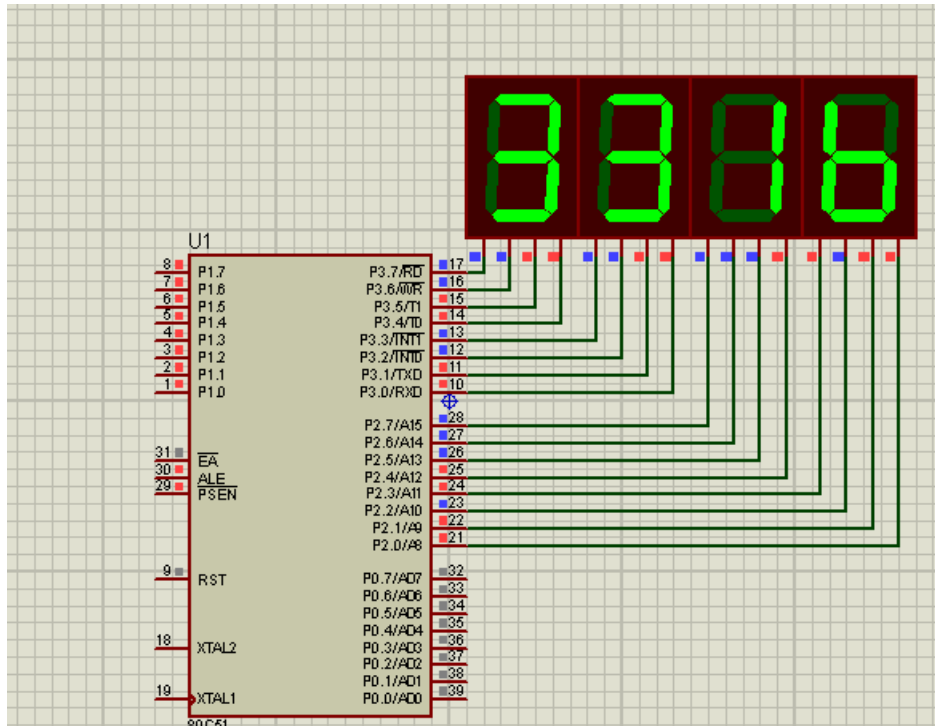Problem 29_one_HEX

In this problem we will multiply two numbers, each number is represented by one hex digits/byte with a length of 2 bytes

We will use the same previous algorithm

Functions

1-multiply_one_hex

```asm
25  MULTIPLY_ONE_HEX:
26      MOV A,TEMP1
27      MOV B,TEMP2
28      MUL AB
29      MOV B,#16
30      DIV AB
31      MOV X1,B
32      MOV X2,A
33
34      MOV A,TEMP1
35      MOV B,TEMP2+1
36      MUL AB
37      MOV B,#16
38      DIV AB
39      MOV X3,B
40      MOV X4,A
41
42      MOV A,TEMP1+1
43      MOV B,TEMP2
44      MUL AB
45      MOV B,#16
46      DIV AB
47      MOV X5,B
48      MOV X6,A
49
50      MOV A,TEMP1+1
51      MOV B,TEMP2+1
52      MUL AB
53      MOV B,#16
54      DIV AB
55      MOV X7,B
56      MOV X8,A
57
```

25-32 multiply Y1*Z1 and store the result in X1,X2

34-40 multiply Y1*Z2 and store the result in X3,X4

42-48 multiply Y2*Z1 and store the result in X5,X6

50-56 multiply Y2*Z2 and store the result in X7,X8

Before saving partial product, we must isolate two hex digits by using the division by 16 as in (29-30) → A will have the higher nibble and B the lower nibble

```
58      MOV RESULT,X1
59      MOV A,X2
60      ADD A,X3
61      ADD A,X5
62      MOV B,#16
63      DIV AB
64      MOV RESULT+1,B
65
66      ADD A,X4
67      ADD A,X6
68      ADD A,X7
69      MOV B,#16
70      DIV AB
71      MOV RESULT+2,B
72      ADD A,X8
73      MOV RESULT+3,A
74
75      CALL DISP_RESULT_HEX1
76
77  RET
```

Now we make the addition to get R1 to R4

R1 is just X1 (58)

R2 = X2+X3+X5 (59-64)

R3 = X4+X6+X7 (66-71)

R4 = X8   (72-73)

Before saving the result we must convert the value in ACC into HEX, so we divide it by 16 (62-63) and store the remainder in the result (64), and accumulate the higher digit for the next addition(66)