Simple Program

dosbox mount d d:/8086 mount d d:/masm d:	edit t.asm <alt F> S <alt F> X	masm t; link t; t		

Program A	Program B	Program C	Program D	Program E	

.model small
.code
Mov AH,2
Mov DL,65
Int 33
Mov DL,98
Int 33
Int 33
Mov AH,76
Int 33
END
	.model small
	.code
	Mov AH,2
	Mov DL,82
	Int 33
	Mov DL,97
	Int 33
	Mov DL,4
	Int 33
	Mov DL,'m'
	Int 33
	Mov AH,76
	Int 33
	END
		.model small
		.code
		Mov AH,2
		Mov AL,68
		Mov DL,103
		Mov CL,57
		Int 21h
		Mov DL,CL
		Int 21h
		Mov DL,AL
		Int 21h
		Mov AH,76
		Int 21h
		End
			Mov DL,40
			Mov BH,32
			Mov AH,2
			Add DL,BH
			Int 21h
			Mov DL,90
			Sub DL,24
			Int 21h
			Mov AH,76
			Int 21h
				Mov CL,100
				Mov BH,105
				Add CL,BH
				Mov AH,2
				Mov DL,63
				Adc DL,2
				Int 21h
				Mov AH,76
				Int 21h
				End
				use Sbb in place of Adc	

Program A: outputs Abb. Output is produced because of Int 33

Program B: Replace 4 by 65 49 45 10 13 8 32 224

Program C: g9D is expected output but 'D' is not outputted since Int 21h disturbs AL(=DL).

Program D: Outputs HB. Since 40+32=72. 90-24=66. Addition of 120 and 205 outputs E. 120+205=325. When addition of two numbers becomes bigger than 255 then 256 is subtracted from it. Hence 325-256=69. Do Sub DL,248. Output b(98). When result is less than 0 then 256 is added. 90-248=-158. -158+256=98.

Program E: Outputs A(63+2). 100+105=205<256.

Let us make BH=205 then output is B. 100+205=305>255 hence 256 is subtracted and 'Carry' flag is set (1). Adc DL,2 is 63+2+cy=68.

Program A	Program B

.model small
.code
Mov AH,1
Int 33
Mov DL,AL
Mov AH,2
Add DL,1
Int 33
Mov AH,76
Int 33
End
	Mov AH,1
	Int 33
	Mov DL,AL
	Int 33
	Sub DL,AL
	Add DL,48
	Mov AH,2
	Int 33
	Mov AH,76
	Int 33

1. Read a letter. Output a letter whose ascii code is double. Input 2 output d. 4 $\rightarrow$ h. \$ $\rightarrow$ H. - $\rightarrow$ Z. (A) triple g $\rightarrow$ Z.
2. Read a digit (less than 5) output its double. 2 $\rightarrow$ 4. 4 $\rightarrow$ 8. 3 $\rightarrow$ 6.
3. Read two letters (characters) and print a character whose ASCII code is sum of their ASCII codes. A7 $\rightarrow$ x 65+55=120.
4. Read two letters and print second letter first and first letter later. e.g. input px $\rightarrow$ xp. Use AH,AL,BH,BL,CH,CL,DH,DL.
5. Read 4 letters and print them in reverse order. crtd $\rightarrow$ dtrc. (5,6)
6. Program to output sum of two digits. Assume sum<10. 24 $\rightarrow$ 6.
7. Assume sum is more than 10. input 75 output 12.
8. Print first digit-second digit. Assume 2nd digit is bigger. Input 27 output -5.

Program A: Reads a letter and outputs the next letter.

Program B: Reads two digits and output their difference. Assume first digit is bigger. In place of add DL,48 one may use OR DL,30h.

When AH=1 Int 33 reads a letter and puts its ascii in AL.
When AH=2 Int 33 outputs a letter, whose ascii is in DL. When AH=2 Int 33 stops execution.

9. Read a letter. Output ‘A’ when ascii code is less than 100. Output ‘B’ otherwise. Hint: Adc. Input Z output A. f $\rightarrow$B. c $\rightarrow$A.
10. Output ‘A’ when less than 100. Output ‘C’ otherwise. (A) A and I respectively (B) AK
11. Output ‘A’ when <100. ‘B’ when between 100 and 110. ‘C’ when >110. Z $\rightarrow$A f $\rightarrow$B u $\rightarrow$C.
12. Read two letters. Output ‘A’ when both less than 100. ‘C’ when both bigger than 99. ‘B’ otherwise.
13. Read two letters. Output ‘A’ when first letter is bigger. ‘B’ otherwise. ac $\rightarrow$B. Zk $\rightarrow$B. E2 $\rightarrow$A.
14. Read two digits output sum. 75 $\rightarrow$12 23 $\rightarrow$05 (A)difference 75 $\rightarrow$+2 57 $\rightarrow$-2 28 $\rightarrow$-6 51 $\rightarrow$+4