

Answer #2 Q7

```

00 519 LOAD 19
01 320 STO 20
02 901 INPUT
03 318 STO 18
04 901 INPUT
05 319 STO 19
06 518 LOAD 18
07 217 SUB 17
08 318 STO 18
09 813 BP 13
10 520 LOAD 20
11 902 OUTPUT
12 000 STOP
13 520 LOAD 20
14 119 ADD 19
15 320 STO 20
16 606 B 06
17 001 ---
18 000 ---
19 000 ---
20 000 ---

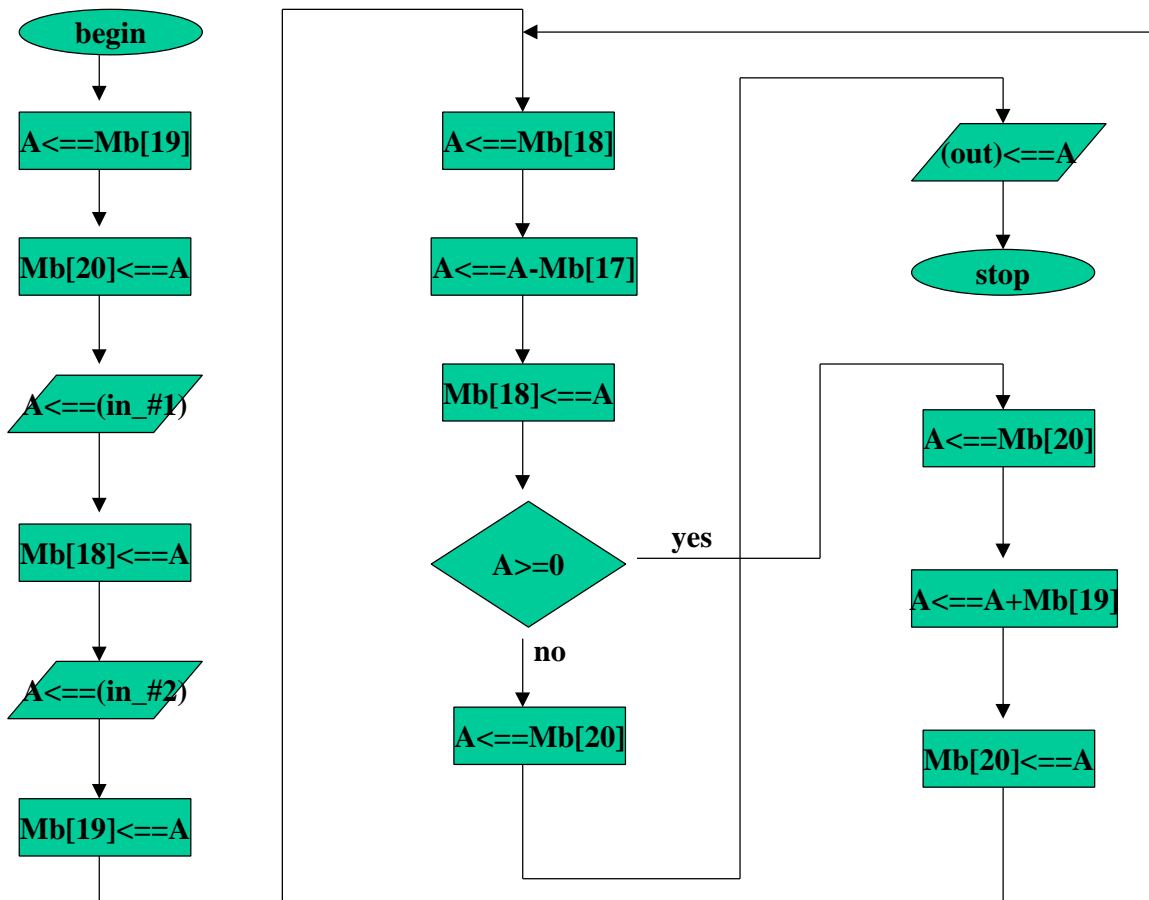
```

```

A<= MBox[19];      A=000
MBox[20]<=A;        MBox[20]=000
A <= (input_1);
MBox[18] <= A;      MBox[18]=(input_1)
A <= (input_2);
MBox[19] <= A;      MBox[19]=(input_2)
A <= MBox[18];      A=(input_1)
A <= A - MBox[17];  A=(input_1 - 1)
MBox[18] <= A;      MBox[18]=(input_1 - 1)
if (A>=0) then PC <= 13; else PC<=09+1;
A <= MBox[20];
print the content in A

A <= MBox[20];
A <= A + MBox[19]
MBox[20] <= A;
PC <= 06

```



Tutorial Problem No.7

After each of the instruction is executed, the content data in Accumulator and Memory are shown below:
 This can be a part of your draft to keep to your own when you are working out with this problem.

Addr.	A	[17]	[18]	[19]	[20]
Init.	---	001	000	000	000
00	000				
01					000
02	002				
03			002		
04	004				
05				004	
06	002				
07	001				
08			001		
09					PC ← 13
13	000				
14	004				
15					004
16					PC ← 06
06	001				
07	000				
08			000		
09					PC ← 13
13	004				
14	008				
15					008
16					PC ← 06
06	000				
07	-001				
08			001		
09					PC ← PC+1
10	008				
11	output(008)				
12	stop				

The output is 8 for the given inputs. (the first input datum is 2, the second one is 4)

The program does a multiplication. (You can change the inputs to different values, the output is the product of the inputs)