COAL LAB:

TASK NUMBER :01

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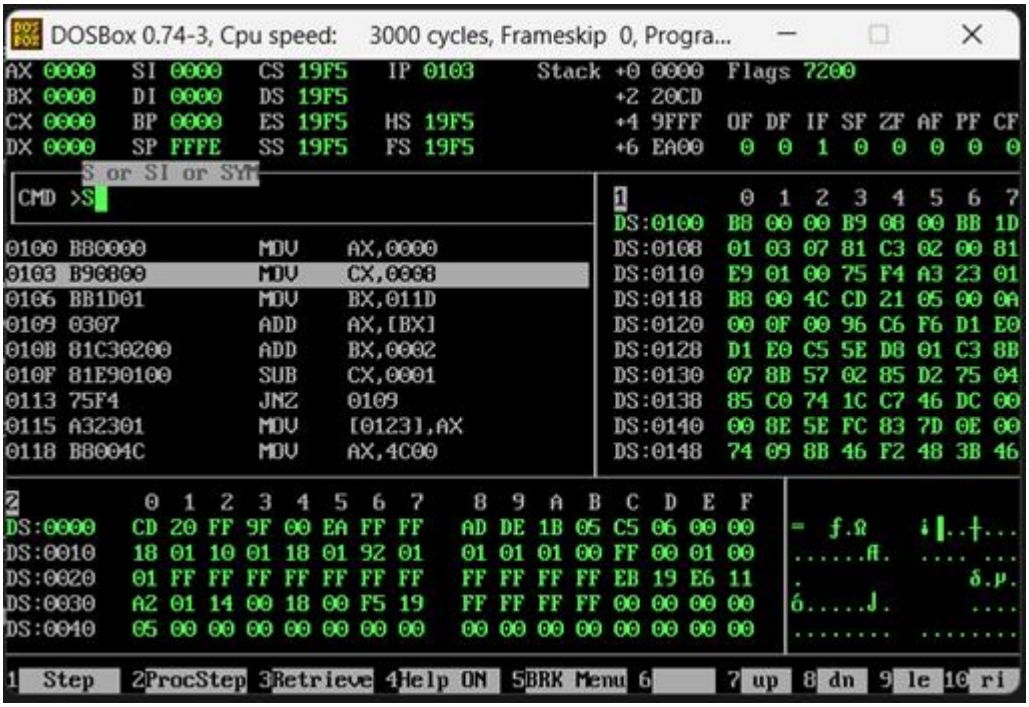
Roll-Number:22P-9009

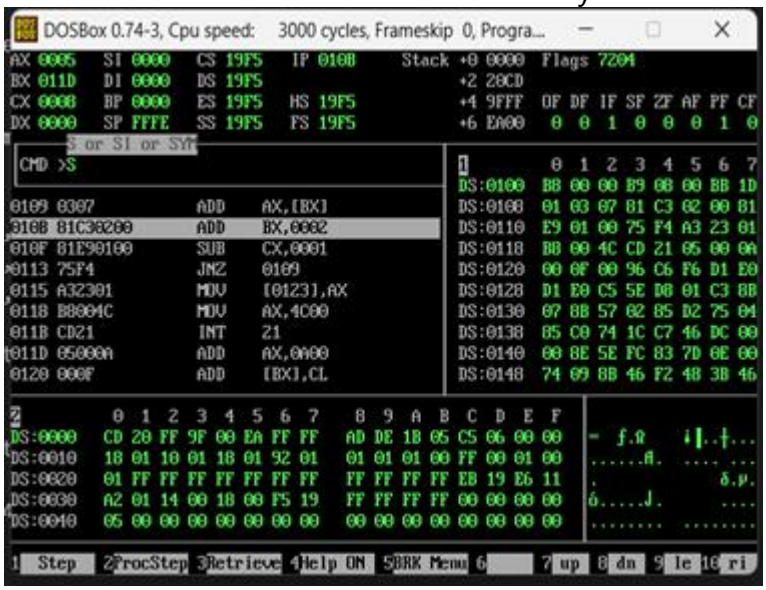
Step 1: Initialize everything.

Not a single flag
Description: Set the accumulator's (AXE) initial value to 0.
In order to loop over 5 numbers, set the loop counter (CX) to 5.
Put the first integer (num1)'s memory address into the base register (BX).



Step 2: Incorporate Current Value into Accumulator

Registers: AXE, BX Flags: Parity Flag (PF) Description: Add the value to the accumulator AXE from the memory address that BX pointed to.

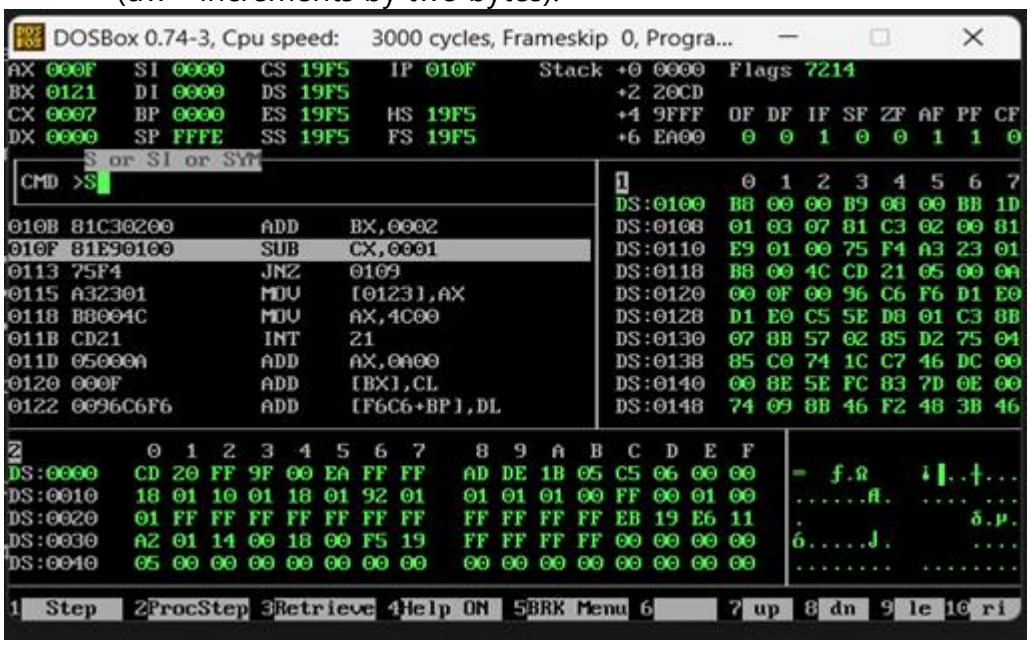


Step 3: The Parity Flag (PF) becomes one.
Step Three: Proceed to the Next Number

Registers: BX

Not a single flag

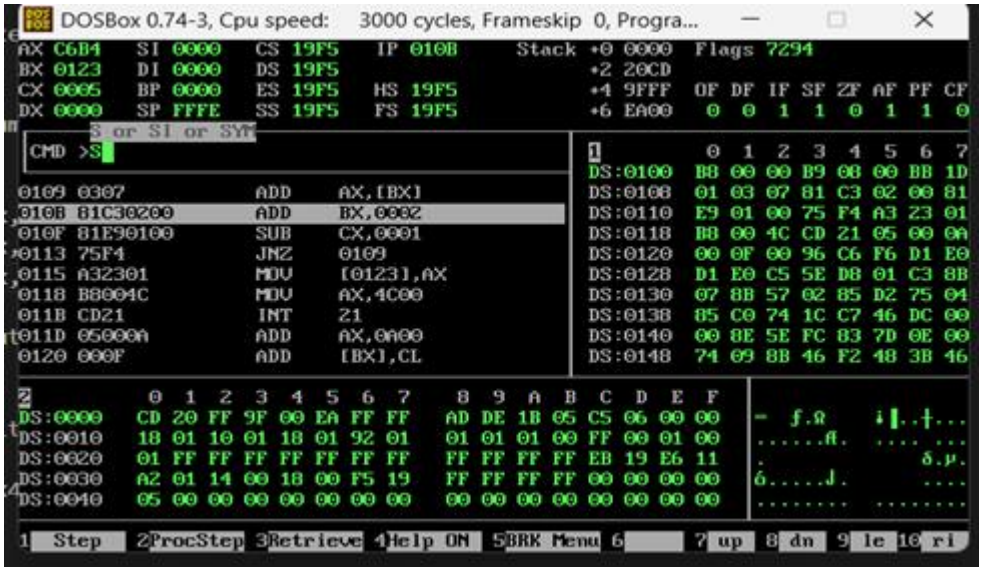
To point to the next number in memory, increment BX by two bytes (dw increments by two bytes).



Step 4: Decreasing the Loop Counter

Registers: CX No Flags

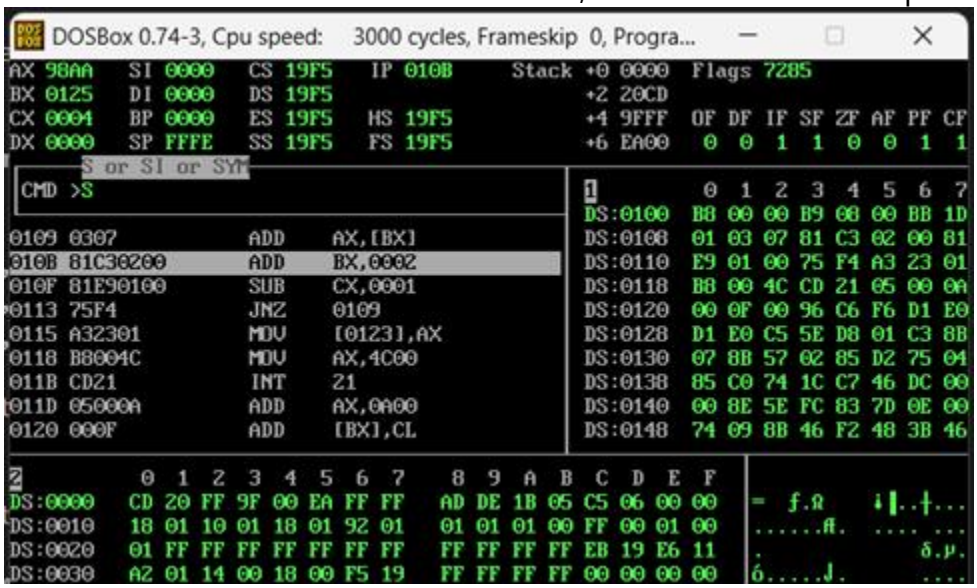
Description: To keep track of iterations, decrease the loop counter CX by 1.



Step 5: Examine the condition of the loop

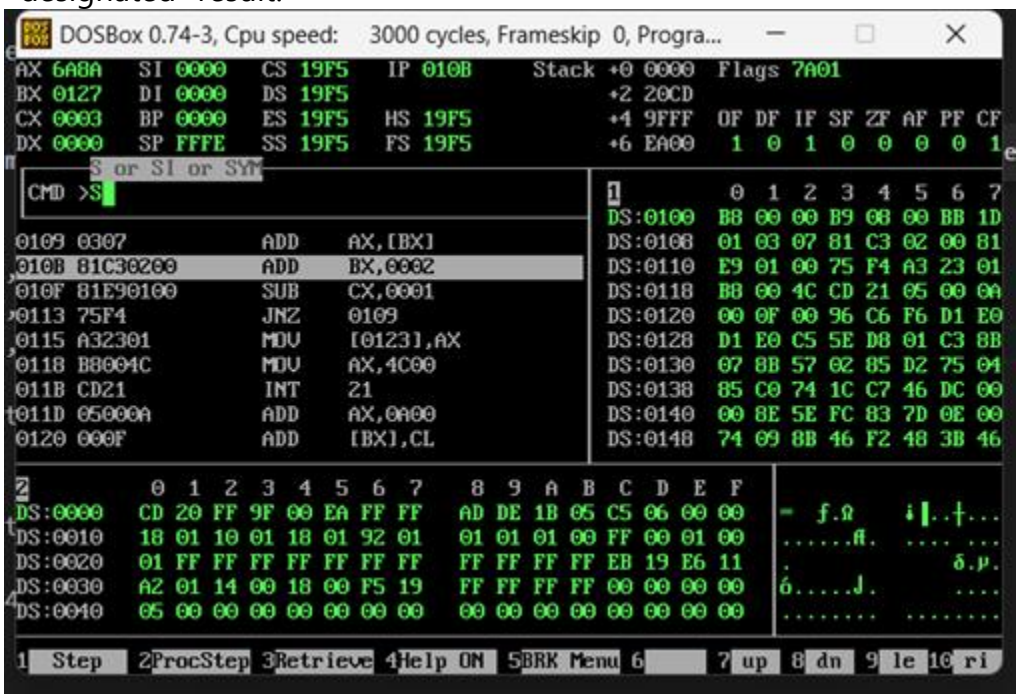
Registers: CX

Not a single flag
Inspect if loop counter CX is not equal to zero.
To resume the iteration if CX is not zero, return to the outerloop label.



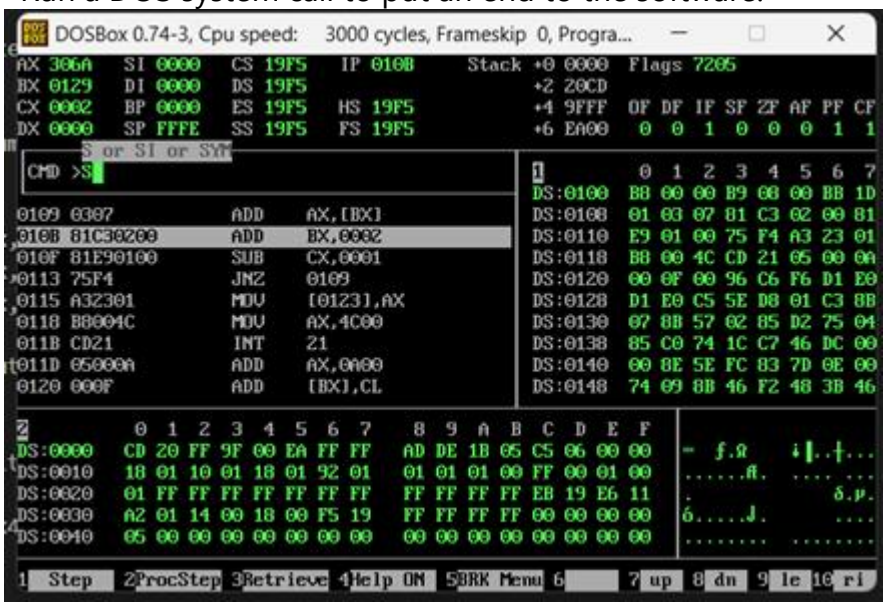
Step 6: Save the Outcome

Registers: AXE
Not a single flag
The final amount, which is kept in AXE, should be stored in the memory address designated "result."



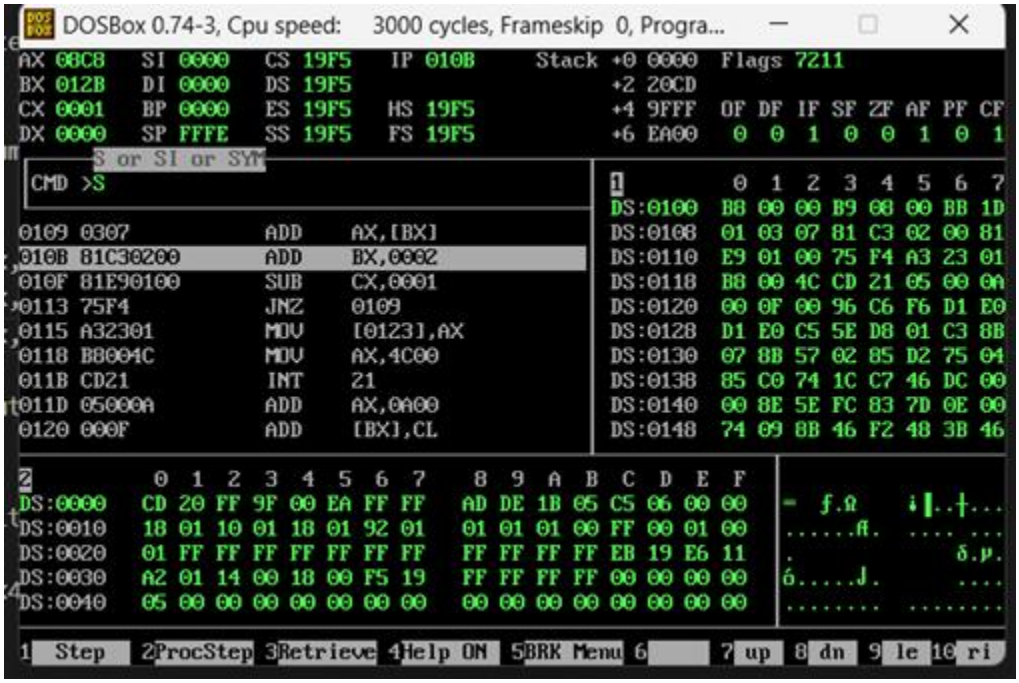
Step 7: Get Ready to End the Programme

Registers: AXE
Not a single flag
Description: Assemble the required registers in order to become ready for programme termination.
Run a DOS system call to put an end to the software.



Step 8:

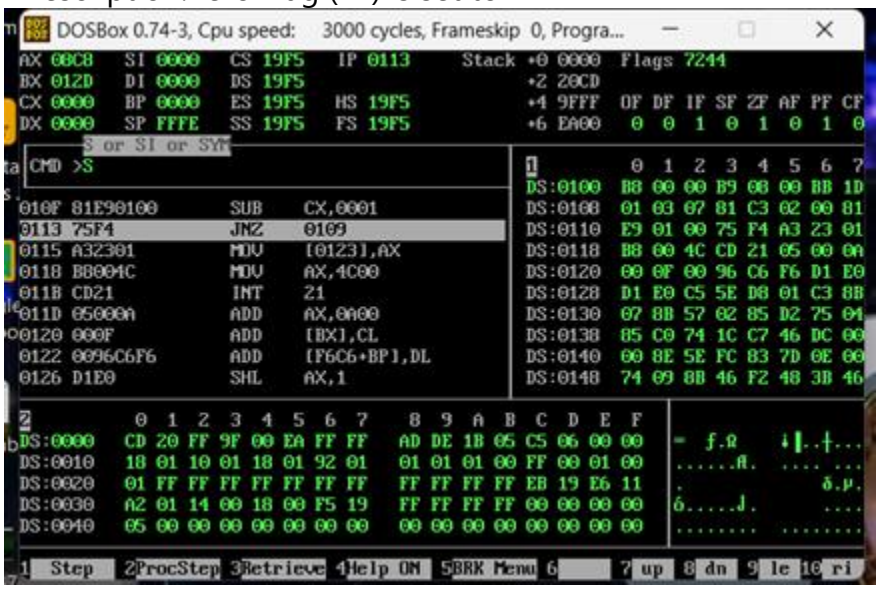
This step involves no notable alterations or occurrences.



Step 9: Setting the Zero Flag (ZF)

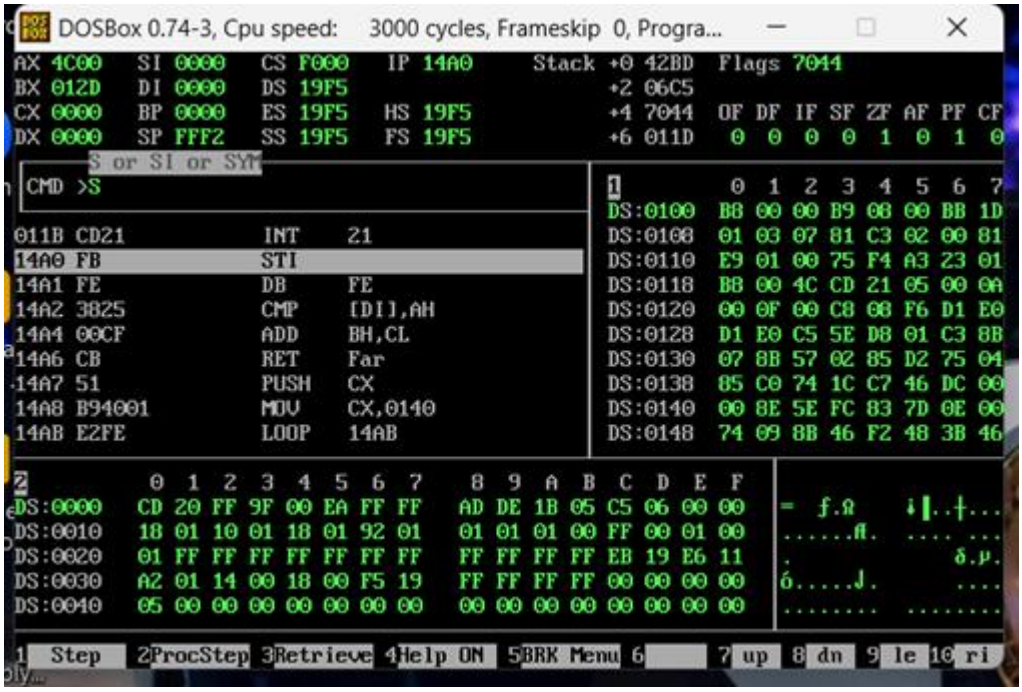
Registers: Not present Flags: Not present (ZF)

Description:Zero Flag (ZF) is set to 1



Step 10: Terminate Programme

Description: The programme comes to an end.


DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
AX 4C00 SI 0000 CS F000 IP 14A0 Stack +0 42BD Flags 7044
BX 012D DI 0000 DS 19F5 +2 06C5
CX 0000 BP 0000 ES 19F5 HS 19F5 +4 7044 OF DF IF SF ZF AF PF CF
DX 0000 SP FFF2 SS 19F5 FS 19F5 +6 011D 0 0 0 0 1 0 1 0
S or SI or SY
CMD >S
011B CD21 INT 21
14A0 FB STI
14A1 FE DB FE
14A2 3825 CMP [DI],AH
14A4 00CF ADD BH,CL
14A6 CB RET Far
14A7 51 PUSH CX
14A8 B94001 MOV CX,0140
14AB E2FE LOOP 14AB
1 0 1 2 3 4 5 6 7
DS:0100 B8 00 00 B9 0B 00 BB 1D
DS:0108 01 03 07 81 C3 02 00 81
DS:0110 E9 01 00 75 F4 A3 23 01
DS:0118 B8 00 4C CD 21 05 00 0A
DS:0120 00 0F 00 C8 0B F6 D1 E0
DS:0128 D1 E0 C5 5E D8 01 C3 8B
DS:0130 07 8B 57 02 85 D2 75 04
DS:0138 85 C0 74 1C C7 46 DC 00
DS:0140 00 8E 5E FC 83 7D 0E 00
DS:0148 74 09 8B 46 F2 48 3B 46
2 0 1 2 3 4 5 6 7 8 9 A B C D E F
DS:0000 CD 20 FF 9F 00 EA FF FF AD DE 1B 05 C5 06 00 00
DS:0010 18 01 10 01 18 01 92 01 01 01 01 00 FF 00 01 00
DS:0020 01 FF FF FF FF FF FF FF FF FF FF FF EB 19 E6 11
DS:0030 A2 01 14 00 18 00 F5 19 FF FF FF FF 00 00 00 00
DS:0040 05 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1 Step 2 ProcStep 3 Retrieve 4 Help ON 5 BRK Menu 6 7 up 8 dn 9 le 10 ri