Simplify $X = ABC + A'B + ABC'$

$ABC + A'B + ABC'$

$\equiv ABC + ABC' + A'B$ (commutative law)

$\equiv AB(C + C') + A'B$ (distributive law)

$\equiv AB + A'B$ (complement OR)

$\equiv B(A + A')$ (distributive law)

$\equiv B$ (complement OR)

Simplify $F(A, B, C) = ABC + A'BC + ABC'$ **using K-maps**

A \ BC	00	01	11	01
0	0	0	1	0
1	0	0	1	1

$\therefore F(A, B, C) = \bar{B}\bar{C} + AC$

MARIE INSTRUCTIONS (mane.js.org)

Type	Instruction	Summary
Arithmetic	Add X	AC ← AC + X
	Subt X	AC ← AC - X
	Addl X	Add Indirect: use the value X as the actual address of the data operand to add to AC
	Clear	AC ← 0
Data Transfer	Load X	
	Store X	
I/O	Input	Request the user to input a value
	Output	Prints value from AC
Branch		

. . . REST IN SCREENSHOTS ON PHONE OR ACCESS DOCUMENTS IN DRIVE

IN MARIE, HAVE TO DECLARE VARIABLES MANUALLY !

eg. X, Dec 7

Y, Dec 3

Z, Dec 0

IN PYTHON:

```
x = input()      → Input
                   Store x
y = input()      → Input
                   Store y
if x > y:        * MAKE AC HOLD x-y  → Load x
                                       Subt y
                                       Skipcond 800   (skip next line if AC (x-y) > 0
                                       Jump Print y
                                       Jump print x
    print()
else:                                  Print x, load x
                 print(x)    →         Output
    print()      print(y)    →         Print y, load y
                                       Output
```

THEN, after OUTPUT, type HALT
↳ stop program

Declare variables

```
x, Dec 0
y, Dec 0
```