; You may customize this and other start-up templates;

; The location of this template is c:\emu8086\inc\0\_com\_template.txt

org 100h

.DATA

A DW 5

B DW 6

C DW 7

X DW 15

Y DW 20

Z DW 25

CONS EQU 50

.CODE

MAIN PROC

;TASK 01:Take input in the register AX, and then move it to BX using the MOV instruction.

MOV AX,25

MOV BX,AX

;TASK 02:Swap two numbers, using a maximum of 3 registers.

MOV AX,35

MOV BX,40

MOV DX,AX

MOV AX,BX

MOV BX,DX

;TASK 03: Add two numbers using two registers.

MOV AX,65

MOV BX,16

ADD AX,BX

;TASK 04: Subtract two numbers using two registers. Do you always get the correct answer? What happens when you subtract larger number from the smaller one?

MOV AX,27

MOV BX,23

SUB AX,BX

;TASK 05:Swap two numbers using ADD/SUB instructions only.

MOV AX,50

MOV BX,60

ADD DX,AX

ADD AX,BX

ADD BX,DX

;TASK 06:Perform the following arithmetic instructions. A, B, C are three variables to be declared beforehand

;1. A = B - A

MOV AX,A

SUB B,AX

MOV BX,B

MOV A,BX

;2. A = -(A + 1)

MOV AX,A

NEG AX

ADD AX,-1

MOV A,AX

;3. C = A + (B + 1); use inc

INC B

MOV AX,A

ADD AX,B

MOV C,AX

;4. A = B - (A - 1); use dec

DEC A

MOV AX,B

SUB AX,A

MOV A,AX

;TASK 07: Perform the following arithmetic operations

; 1. X \* Y

MOV AX, X

MOV BX, Y

MUL BX

;2. X / Y

MOV AX,X

MOV BX,Y

DIV BX

;3. X \* Y / Z

MOV AX,Y

MOV BX,Z

DIV BX

MOV DX,BX

MOV CX,X

MUL CX

;TASK 08:1. 236DF \* AF

;NOT POSSIBLE

;2. 8A32F4D5 / C9A5

;MOV DX,8A32H

; MOV AL,F4D5H

; MOV BX, C9A5H

;DIV BX

; CA92 \* BAF9

;MOV AX,CA92

;MOV BX,BAF9

;MUL BX

;TASK 09:Write two examples for each combination of registers possible for the 'mov' instruction.

;GENERAL REGISTER

MOV AX,10

MOV BX,AX ;GENERAL

MOV AX,20

MOV DS,AX ; SEGMENT

MOV AX,X ;MEMORY LOCATION

;SEGMENT REGISTER

MOV AX,20

MOV DS,AX ;GENERAL

MOV DS,X ;MEMORY

;MEMORY LOCATION

MOV AX,30

MOV X,AX ;GENERAL

MOV DS,X;SEGMENT

;CONSTANT

MOV AX,30

MOV CONS,AX;GENERAL

;TASK 10: Write two examples for each combination of registers possible for the 'add' and 'sub' instructions.

;GENERAL REGISTER

MOV AX,90

MOV BX,80

ADD AX,BX

MOV AX,73

MOV BX,20

SUB AX,BX

MOV AX,10

ADD AX,X;MEMORY

MOV AX,25

SUB AX,X

;MEMORY

MOV AX,50

ADD X,AX

MOV AX,25

SUB X,AX

;CONSTANT

MOV AX,20

ADD AX,CONS

MOV AX,15

SUB AX,CONS