**מעבדה 3 את"מ:  
  
מגישים:  
 אורי מלכא- 314862996   
אלן ציפין- 313206062  
  
תרגיל 2:**; Add1.asm

;

.MODEL SMALL

.STACK 100h

.DATA

;vars

NUM DW ?

DIG DW ?

TEN DB 10

REM DW ?

;strings

EnterNumber DB 'Please Enter Number (from 00 up to 99):' ,13,10,'$'

EnterDigit DB 13,10,'Please Enter Digit (from 0 up to 9):' ,13,10,'$'

RoundDown DB 13,10,'The result should be round down' ,13,10, '$'

RoundUp DB 13,10,'The result should be round up' ,13,10, '$'

Equation DB 13,10,'XX^2 mod X=X',13,10,'$'

Error DB 13,10,'Division Error' ,13,10,'$'

;

.CODE

MOV AX,@DATA ; DS can be written to only through a register

MOV DS,AX ; Set DS to point to data segment

;start of the code enter number

MOV AH,9

MOV DX,OFFSET EnterNumber

INT 21h

;This block receives number between 00 up to 99 from the user.

MOV AH,1

INT 21h

MOV Equation[2],AL ;We Insert the char of the first digit to our string equation

SUB AL,'0'

MOV AH,0

MOV NUM,AX

MOV AL,TEN

MUL NUM

MOV NUM,AX

MOV AH,1

INT 21h

MOV Equation[3],AL ;We Insert the char of the second digit to our string equation

SUB AL,'0'

MOV AH,0

ADD NUM,AX

MOV AH,9 ; Set print option for int 21h

MOV DX,OFFSET EnterDigit ; Set DS:DX to point to EnterDigit

INT 21h ; Print EnterDigit

;This block receives digit between 0 up to 9 from the user.

MOV AH,1

INT 21h

MOV Equation[11],AL ;We Insert the char of the digit to our string equation

SUB AL,'0'

MOV AH,0

MOV DIG,AX

;Check if digit is zero to prevent division by 0.

CMP DIG,0

JE ErrorZero

;CALC NUM^2/DIG (IF DIG NOT 0)

MOV AX,NUM

MUL NUM ;DX:AX=AX(NUM)\*NUM

DIV DIG ; NOW DX=NUM^2%DIG

MOV REM,DX

ADD DX,'0'

MOV Equation[13],DL ;We Insert the remainder of the equation

;Print the equation string

MOV AH,9 ; Set print option for int 21h

MOV DX,OFFSET Equation ; Set DS:DX to point to Equation

INT 21h ; Print Equation

;COMPARE THE REMINDER

MOV AX,REM ;Its like AH\*2

ADD AX,AX

;If Reminder needed to be round up

CMP AX,DIG

JAE UP ;If Reminder needed to be round up

JL DOWN ;If Reminder needed to be round down ;JNB TO CHECK

UP: ;ErrorZero label if the digit that was received is zero.

MOV AH,9

MOV DX,OFFSET RoundUp

int 21h

JMP ToEnd

DOWN: ;ErrorZero label if the digit that was received is zero.

MOV AH,9

MOV DX,OFFSET RoundDown

int 21h

JMP ToEnd

ErrorZero: ;ErrorZero label if the digit that was received is zero.

MOV AH,9

MOV DX,OFFSET Error

int 21h

;END

ToEnd:

MOV AH,4Ch ; Set terminate option for int 21h

INT 21h ; Return to DOS (terminate program)

END



  
  
  
  
  
  
  
