;------------------------------------------------------------------------------- ; ;Write 80387 ALP to plot Sine Wave, Cosine Wave and Sine function. Access video ;memory directly for plotting.

;-------------------------------------------------------------------------------

;sine wave working

.model small

.stack 100

.data

msg db 10,13,'sine wave$'

x dd 0.0

xad dd 3.0

one80 dd 180.0

thirty dd 30.0 ;scaling factor

sixty dd 60.0 ;scaling factor

y\_coord dw 00

count dw 0100h

threetwenty dd 320.0

curr dw 00

pixel dw ?

.code

.386

main: mov ax,@data

mov ds,ax

mov ah,00 ;set video mode

mov al,13h

int 10h

mov ax,0a000h

mov es,ax

up1:finit

fldpi

fdiv one80

fmul x

fsin

fmul thirty

fld sixty

fsub st,st(1) ;=60 -30sin((pi/180))\*x

fist y\_coord

;disppixel

finit

fild y\_coord

fmul threetwenty

fiadd curr

fist pixel

mov al,50

mov di,pixel

mov [es:di],al

inc curr

fld x

fadd xad

fst x

dec count

jnz up1

mov ah,09h ; display message

lea dx,msg

int 21h

mov ah,4ch

int 21h

end main

;-------------------------------------------------

;cosine wave working

.model small

.stack 100

.data

msg db 10,13,'cosine wave$'

x dd 0.0

xad dd 3.0

one80 dd 180.0

thirty dd 30.0

sixty dd 60.0

y\_coord dw 00

count dw 0100h

threetwenty dd 320.0

curr dw 00

pixel dw ?

.code

.386

main: mov ax,@data

mov ds,ax

mov ah,00 ;set video mode

mov al,13h

int 10h

mov ax,0a000h

mov es,ax

up1:finit

fldpi

fdiv one80

fmul x

fcos

fmul thirty

fld sixty

fsub st,st(1) ;=60-30 sin((pi/180))\*x

fist y\_coord ;saves y coord. it gives only column no

;disppixel

finit

fild y\_coord

fmul threetwenty ; to get x coord

fiadd curr

fist pixel

mov al,50

mov di,pixel

mov [es:di],al ;di higher byter row number and lower byte col number

;al attribute

inc curr

fld x

fadd xad ; to get next angle

fst x

dec count

jnz up1

mov ah,09h ; display message

lea dx,msg

int 21h

mov ah,4ch

int 21h

end main

;---------------------------------------------------

;sinc wave working

.model small

.stack 100

.data

msg db 10,13,'sinc wave$'

x dd 0.0

one80 dd 180.0

thirty dd 30.0

sixty dd 60.0

y\_coord dw 00

temp dd ?

count dw 0120h

threetwenty dd 320.0

curr dw 00

pixel dw ?

x\_coord\_sinc dd 1.0

x\_ad\_sinc dd 5.0

.code

.386

main: mov ax,@data

mov ds,ax

mov ah,00 ;set video mode

mov al,13h

int 10h

mov ax,0a000h

mov es,ax

up1:finit

cmp x\_coord\_sinc,0

je load1andscale

fldpi

fdiv one80

fmul x\_coord\_sinc

fst temp

fsin

fdiv temp

jmp scale

load1andscale:

fldz

scale:

fmul thirty

fld sixty

fsub st,st(1)

fist y\_coord

;disppixel

finit

fild y\_coord

fmul threetwenty

fiadd curr

fist pixel

mov al,50

mov di,pixel

mov [es:di],al

inc curr

fld x\_coord\_sinc

fadd x\_ad\_sinc

fst x\_coord\_sinc

dec count

jnz up1

mov ah,09h ; display message

lea dx,msg

int 21h

mov ah,4ch

int 21h

end main

**OUTPUT :**





