Project Name:

Line Editor

Platform:

MASM32 8086

Group Members:

Hussain Akram 2014-CS-2

Muzamil Bashir 2014-CS-2

Noman Bashir 2014-CS-18

Submitted to:

Sadia

Department of Computer Science and Engineering

UET Lahore

Abstraction:

This project helps you to draw lines on windows console of whatever color you want. Moreover you can make different geometric shapes by using these lines and delete the shapes by having the functionality of erasing line. The project is done in assembly language MASM32 8086. We tried to write simple code to enhance the readability.

Lines are drawn by first taking input from the user that what kind of line and of what color he wants to draw.

The whole project has been done in different parts which are as follows:

1. If you want to draw the line you simply press the key “L” and start using direction keys to draw.
2. To change the color of line press “C” and then choose numbers from 1 to 10 to change the color of the line.
3. To delete the line press “D” and move over the line you want to erase.
4. And if you want to draw the line diagonally then press “X” and the go right or left diagonally.

Description:

Displaying the message

First programs starts with showing a huge message that includes projects name and group members and shows the keys for making you familiar with it. For this we used indirect-string accessing and coded for each line naming it as “msg 01, 02, 03….” In comments.

At first we take the cursor at central position by giving it 20 in “dh” part and 15 in “dl”. Then this cursor position is saved and then you can proceed to draw lines. We have divided our message part in 17 strings and displayed in almost on 17 lines. The starting part of our code is just for displaying this message under the heading of “Manual”.

Each time we set the cursor position and passed it offset of particular string to display it. It’s just kind of recursive use of code lines for displaying it couple of strings on console.

Draw function

After we are done displaying the message on the console here starts the draw mode by first taking input key from the user. After taking input it starts draw the whenever direction you press the direction key i.e. up, down, right, left.

Right-side: If we want to draw line towards right then we just increment our column number and make the row as it is. In this lines drawn would be in positive x-axis towards right.

Left-side: If we want to draw line towards right then we just decrement our column number and make the row as it is. In this lines drawn would be in negative x-axis towards left.

Upside: If we want to go up direction then we set the column number same and decrement row number.

Downside: If we want to go down direction then we set the column number same and increment row number.

Change Color

You can change the color of line first pressing “C” and then select one of the numbers from 1 to 10 that is also described in message box. You can also over-write one color on the other. This functionality will make easy to distinguish among different shapes you have drawn and make them charming. In code segment we have written code for each color by setting it in “set\_color” portion.

Delete Line

Here we can also erase the lines by using this function. To make it functional press “D” and then start going the direction you want to delete the line. This function actually also draws the line but of black color it becomes invisible because our console color is also black. This functionality is also used to break the line you are drawing or make distance between different shapes.

Diagonal Line

Now if you want to draw lines diagonally then we can do it by using this function. So now you can easily draw shapes that contain diagonal line i.e. Triangle shape. For this you just redirect the drawing mode to diagonally mode by pressing “X”.