Homework - 1

CS594

Bresenham's line-drawing algorithm

Implement the Bresenham's line-drawing algorithm in C++. You may use the OS and compiler of your choice. Use the EasyBMP library for creating and writing bitmap images to files on disk. The EsayBMP library may be downloaded from `http://easybmp.sourceforge.net/download.html`. Your submission must include the C++ code and output bitmap files, all in single a zip/tar file. The C++ file must contain a function with the following interface:

void drawLine(int x1, int y1, int x2, int y2, char *fileNameToSaveBitmap)
{
/* your code which draws a line from (x1,y1) to (x2, y2) */
}

Write the roll numbers and names of all the teammates in a comment, at the beginning of the C++ file.

Guidelines for using EasyBMP

/* create a bitmap of size 100 x 100 */
BMP bm;
bm.SetSize(100, 100);
/* set pixel (10,10) to white color */
bm(10, 10)->Red = 255;
bm(10, 10)->Green = 255;
bm(10, 10)->Blue = 255;
/* write bitmap to file */
bm.WriteToFile("one.bmp");

Sample output

Invoke your function with following five different outputs and submit the resulting .bmp files along with the code.

drawline(10, 10, 50, 60, "one.bmp");
drawline(10, 50, 60, 10, "two.bmp");
drawline(90, 100, 10, 20, "three.bmp");
drawline(90, 10, 30, 70, "four.bmp");
drawline(10, 10, 10, 90, "five.bmp");