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//code by Prameet
// Header file for Line clipping algo
void line_clip() {
  float i, xmax, ymax, xmin, ymin, x1, y1, x2, y2, m;
  float start[4], end[4], code[4];
  clrscr();
  printf(" \n \t Line Clipping Program\n");
  printf("\n\tPlease enter the bottom left co-ordinate of viewport: ");
  scanf("%f %f", & xmin, & ymin);
  printf("\n\tPlease enter the top right co-ordinate of viewport: ");
  scanf("%f %f", & xmax, & ymax);
  printf("\nPlease enter the co-ordinates for starting point of line: ");
  scanf("%f %f", & x1, & y1);
  printf("\nPlease enter the co-ordinates for ending point of line: ");
  scanf("%f %f", & x2, & y2);
  for (i = 0; i < 4; i++) {
    start[i] = 0;
    end[i] = 0;
  }
  m = (y2 - y1) / (x2 - x1);
  if (x1 < xmin) start[0] = 1;
  if (x1 > xmax) start[1] = 1;
  if (y1 > ymax) start[2] = 1;
  if (y1 < ymin) start[3] = 1;
  if (x2 < xmin) end[0] = 1;
  if (x2 > xmax) end[1] = 1;
  if (y2 > ymax) end[2] = 1;
  if (y2 < ymin) end[3] = 1;
  for (i = 0; i < 4; i++)

    code[i] = start[i] && end[i];

  if ((code[0] == 0) && (code[1] == 0) && (code[2] == 0) && (code[3] == 0)) {
    if ((start[0] == 0) && (start[1] == 0) && (start[2] == 0) && (start[3] == 0) &&
(end[0] == 0) && (end[1] == 0) && (end[2] == 0) && (end[3] == 0)) {
      cleardevice();
      printf("\n\t\tThe line is totally visible\n\t\tand not a clipping candidate");
      rectangle(xmin, ymin, xmax, ymax);
      line(x1, y1, x2, y2);
      getch();
    } else {
      cleardevice();
      printf("\n\t\tLine is partially visible");
      rectangle(xmin, ymin, xmax, ymax);
      line(x1, y1, x2, y2);
      getch();

      if ((start[2] == 0) && (start[3] == 1)) {
        x1 = x1 + (ymin - y1) / m;
        y1 = ymin;
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      }
      if ((end[2] == 0) && (end[3] == 1)) {
        x2 = x2 + (ymin - y2) / m;
        y2 = ymin;
      }
      if ((start[2] == 1) && (start[3] == 0)) {
        x1 = x1 + (ymax - y1) / m;
        y1 = ymax;
      }
      if ((end[2] == 1) && (end[3] == 0)) {
        x2 = x2 + (ymax - y2) / m;
        y2 = ymax;
      }
      if ((start[1] == 0) && (start[0] == 1)) {
        y1 = y1 + m * (xmin - x1);
        x1 = xmin;
      }
      if ((end[1] == 0) && (end[0] == 1)) {
        y2 = y2 + m * (xmin - x2);
        x2 = xmin;
      }
      if ((start[1] == 1) && (start[0] == 0)) {
        y1 = y1 + m * (xmax - x1);
        x1 = xmax;
      }
      if ((end[1] == 1) && (end[0] == 0)) {
        y2 = y2 + m * (xmax - x2);
        x2 = xmax;
      }

      clrscr();
      cleardevice();
      printf("\n\t\tAfter clippling:");
      rectangle(xmin, ymin, xmax, ymax);
      line(x1, y1, x2, y2);
      getch();
    }
  } else {
    clrscr();
    cleardevice();
    printf("\nLine is invisible");
    rectangle(xmin, ymin, xmax, ymax);
  }
  getch();
  closegraph();
}
```