Practical 4

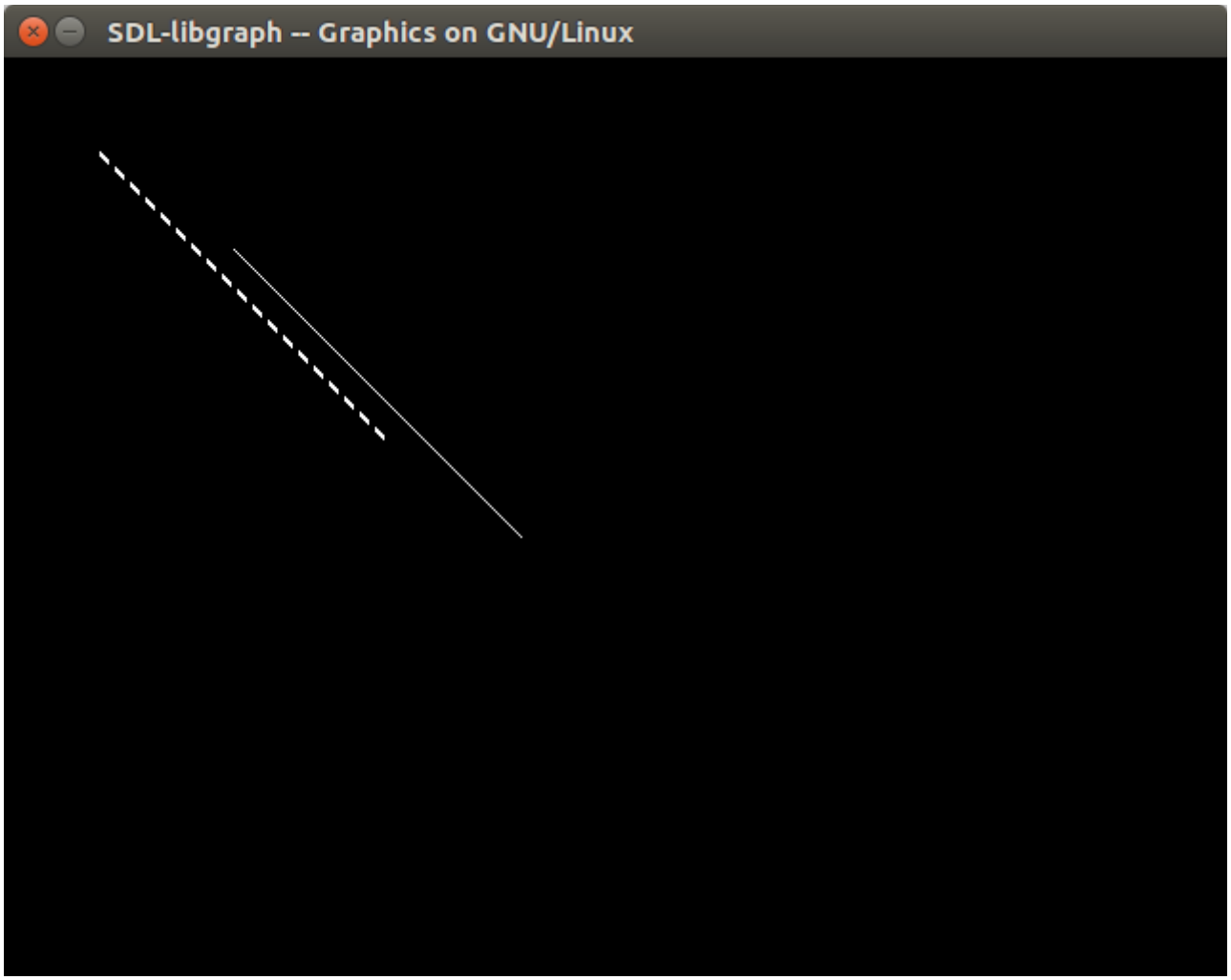
Task 1 : Write a program to perform 2D-Translation operations.

Source Code:

```
#include<graphics.h>
#include<stdio.h>
#include<math.h>

#define PI 3.14159265

int main()
{
  int gd = DETECT,gm;

  float xa,ya,xb,yb,xao,yao,xbo,ybo;

  printf("Translation in 2D space\n");
  printf("Enter the starting point\n");
  scanf("%f %f",&xa,&ya);
  printf("Enter the ending point\n");
  scanf("%f %f",&xb,&yb);
  xao=xa,yao=ya,xbo=xb,ybo=yb;
  int ox,oy;
  printf("Enter new coordinates for Translation origin\n");
  scanf("%d %d",&ox,&oy);
  xa=xa+ox;
  xb=xb+ox;
  ya=ya+oy;
  yb=yb+oy;

  initgraph(&gd,&gm,NULL);
  line(xa,ya,xb,yb);
  setlinestyle(DASHED_LINE,0,THICK_WIDTH);
  line(xao,yao,xbo,ybo);
  delay(5000);
  closegraph();
  return 0;
}
```

Output:

```
adnrs96@aditya-hp-envy-15-notebook-pc:/media/adnrs96/Local Disk/Local Disk(G)/CG
$ ./a.out
Translation in 2D space
Enter the starting point
50
50
Enter the ending point
200
200
Enter new coordinates for Translation origin
70
50
```



DASHED_LINE is the original line.