Lab No 1 (Introduction)

Title: Implementation of various library functions of computer graphics

Basic format of a graphics programme in C

```
#include <graphics.h>
#include <stdlib.h>
#include <stdio.h>
#include <conio.h>

int main(void)
{
  /* request auto detection */
  int gdriver = DETECT, gmode, errorcode;

  /* initialize graphics mode */
  initgraph(&gdriver, &gmode, "C:\\TC\\BGI");

  /* read result of initialization */
  errorcode = graphresult();

  if (errorcode != grOk)  /* an error occurred */
  {
    printf("Graphics error: %s\n", grapherrormsg(errorcode));
    printf("Press any key to halt:");
    getch();
    exit(1);             /* return with error code */
  }

/* Graphics functions to be used here between initgraph and closegraph() */
  /* Example: draw a line */
  line(0, 0, 100, 200);

  /* clean up */
  getch();
  closegraph();
  return 0;
}
```

Computer graphics library (graphics.h) functions

Sl. No.	NAME	FUNCTION	SYNTAX
1	line	draws a line between two specified points.	line(int x1,int y1,int x2,int y2);
2	circle	circle draws a circle.	circle(int x,int y,int radius);
3	arc	arc draws a circular arc.	arc(int x,int y,int stangle,int endangle,int radius);
4	bar	draws a bar.	bar(int left,int top,int right,int bottom);
5	closegraph	shutdown the graphic system.	closegraph(void);
6	ellipse	ellipse draws an elliptical arc.	ellipse(int x,int y,int stangle,int endangle,int xradius,int yradius);
7	floodfill	floodfill fills a bound region.	floodfill(int x,int y,int radius);
8	getbkcolor	getbkcolor returns the current back ground color.	getbkcolor(void);
9	getgraphmode	getgraphmode returns the current graphic mode.	getgraphmode(void);
10	getmaxcolor	returns the maximum color value.	getmaxcolor(void);
11	getmaxx	returns maximum x screen coordinate.	gatmaxx(void);
12	getmaxy	returns maximum yscreen coordinate.	getmaxy(void);
13	gety	returns the current positions y coordinate.	gety(viod);
14	getx	returns the current positions xcoordinate.	getx(void);
15	detectgraph	determaines graphic driver and mode to use bychecking the hardware.	detectgraph(int far *graphdriver,int far *graphmode);
16	fillellipse	fillellipse draws and fill an ellipse.	fillellipse(int x,int y,int xradius,int yradius);
17	getarccoords	gets coordinate of the last call to arc.	getarccoords(struct arccoords type far *arccoords);
18	getcolor	returns the current drawing color.	getcolor(void);

19	getfillpattern	copies a user defined fill pattern into memory.	getfillpattern(char far *pattern);
20	getmaxmode	returns maximum graphics mode number for current driver.	getmaxmode(void);
21	drawpoly	draws the outline of a polygon.	drawpoly(int numpoints,int far *polypoints);
22	fillpoly	fillpoly draws and fills a polygon.	fillpoly(int numpoints,int *polypoints);
23	clearviewpoint	clear the current viewport.	clearviewport(void);
24	getpixel	getpixel gets the color of a specified pixel.	getpixel(int x,int y);
25	grapherrormsg	returns a pointer to an error message string.	grapherrormsg(int errorcode);
26	lineto	draws a line from th current position cp to (x,y).	lineto(int x,int y);
27	initgraph	initialize the graphic system.	initgraph(int far *graphdrive,int far *graphmode,int far *pathtodrive);
28	rectangle	draws a rectangle.	rectangle (int left,int top,int right,int bottom);
29	putpixel	plots a pixel at a specified point.	putpixel(int x,int y,int color);
30	imagesize	returns the number of bytes required to store a bit image.	imagesize(int left,int top,int right,int bottom);
31	moveto	Moves the cp to (x,y).	moveto(int x,int y);
32	setcolor	sets the current drawing color.	setcolor(int color);
33	setgraphmode	sets the system to graphics mode,clear the screen.	setgraphmode(int mode);
34	textwidth	returns the width of string in pixels.	textwidth(char far *textstring);
35	textheight	returns the height of string in pixels.	textheight(char far *textstring);

OBSERVATION SPACE