Experiment 1

Name: Yash Sarang

Div: D6AD Roll No: 47

Course Outcome: LO1.

DOP: 3/9/2021.

DOS: 24/9/2021

Student's Sign - Sarangyash

Teacher's Sign -

①

Prm: Drawing basic primitives using C functions.

Theory:

- Initgraph() initializes the graphics systems by loading a graphics driver from disk, and putting the system into graphic mode.

Syntax:
```
#include <graphics.h>
void initgraph (int *graphdriver, int *graphmode,
                char *pathtodriver);
```

- graphresult() results the error code for the last graphics operation that reported an error and resets.

Syntax:
```
#include<graphics.h>
int graphresult (void);
```

- grapherrormsg (int errorcode) returns a pointer to the error message string associated with errorcode, the value returned by graphresult.

Syntax:
```
#include <graphics.h>
char *graph errormsg (int errorcode);
```

(3)

- circle() draws a circle in the current drawing color with its centre at (x,y) and the radius given by radius.

Syntax: #include <graphics.h>
void circle (int x, int y, int radius);

- arc() draws a circular arc in the current drawing color centred at (x,y) with a radius given by radius.
The arc travels from starting angle to end angle.
If stangle equals 0 and endangle equals 360°, the call to arc draws a complete circle.

Syntax: #include <graphics.h>
void arc (int x, int y, int stangle, int endangle, int radius)

- Rectangle() draws a rectangle in the current line style, thickness and drawing color. (left top) is the upper left of the rectangle and (right bottom) is its lower right corner.

Syntax: #include <graphics.h>
void rectangle (int left, int top, int right, int bottom);

- drawpoly() draws a polygon with numerous points, using the current linestyle and color.
* polypoints points to a sequence of (numpoints * 2) integers.

Syntax: #include <graphics.h>
void drawpoly (int numpoints, int * polypoints);

(2)

- closegraph() deallocates all memory allocated by graphics system, then restores the screen to the mode it was in before you called initgraph.

Syntax: #include <graphics.h>
void closegraph (int wid = ALL_WINDOWS)

- setcolor() sets the current drawing color to color, which can be ranged from 0 to getmaxcolor. The current drawing color is the value to which pixels are set when lines and so on are drawn.

Syntax: #include <graphics.h>
void setcolor (int color)
void putpixel (int x, int y, int color);

- putpixel() plots a point in the color defined by color at (x,y)

Syntax: #include <graphics.h>
void putpixel (int x, int y, int color);

- line() draws a line in the current color, using the current line style and thickness between the points specified, (x_1, y_1) and (x_2, y_2) without updating current position.

Syntax:

#include <graphics.h>
void line (int x_1, int y_1, int x_2, int y_2);

- outtextxy() displays a text string in the view port at the given position (x,y), using the current justification settings and the current font, direction and size.

Syntax: #include <graphics.h>
void ~~cleardev~~ outtextxy (int x, int y, char *textstring);

- cleardevice() erases the entire graphics screen and moves the CP to home (0,0).

Syntax: #include <graphics.h>
void cleardevice (void);

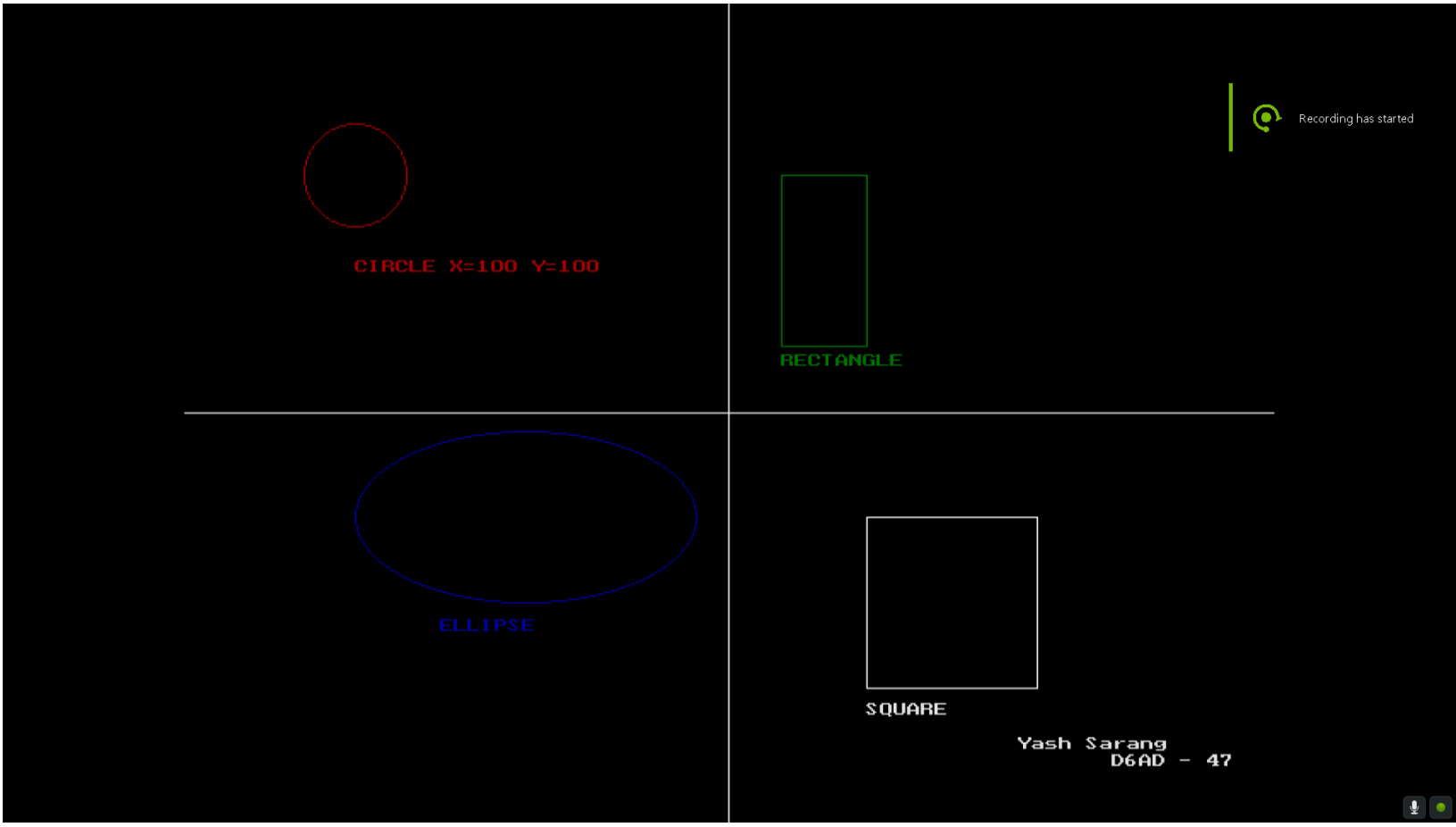
Followed by the ~~coo~~ program code:

CODE:

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

int main()
{
      int gdriver=DETECT, gmode, errorcode;
      int xmax, ymax;
      int x=50, y=150;
      char buffer[20];
      initgraph(&gdriver,&gmode,"C:\\TURBOC3\\BGI");
      errorcode=graphresult();

      if(errorcode!=0)
      {
            printf("Graphics error: %s\n",grapherrormsg(errorcode));
            printf("press any key to halt:");
            getch();
            exit(1);
      }

      setcolor(getmaxcolor());
      xmax=getmaxx();
      ymax=getmaxy();
      line(xmax/2,0,xmax/2,ymax);
      line(0,ymax/2,xmax,ymax/2);
      outtextxy(xmax-150,ymax-50,"Yash Sarang");
      outtextxy(xmax-95,ymax-40,"D6AD - 47");
      setcolor(RED);
      circle(100,100,30);
      outtextxy(100,150,"CIRCLE X=100 Y=100");
      setcolor(GREEN);
      rectangle(350,100,400,200);
      outtextxy(350,205,"RECTANGLE");
      setcolor(BLUE);
      ellipse(200,300,0,360,100,50);
      outtextxy(150,360,"ELLIPSE");
      setcolor(getmaxcolor());
      rectangle(400,300,500,400);
      outtextxy(400,ymax-70,"SQUARE");
      getch();
      cleardevice();

      for(x=50;x<=400;x++)
      {
            circle(x,y,50);
            sprintf(buffer,"X=%d,Y=%d",x,y);
            delay(5);

            if(x==50)
            {
                  outtextxy(40,85,buffer);
```

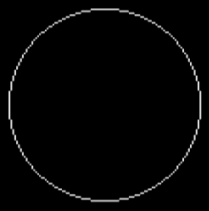
```
                outtextxy(xmax-200,ymax-50,"Yash Sarang");
                outtextxy(xmax-180,ymax-40,"D6AD - 47");
                getch();
        }

        if(x==400)
        {
                outtextxy(350,85,buffer);
                outtextxy(xmax-200,ymax-50,"Yash Sarang");
                outtextxy(xmax-180,ymax-40,"D6AD - 47");
                getch();
        }
        cleardevice();
    }

    getch();
    closegraph();
    return 0;
}
```

OUTPUT:



Recording has started

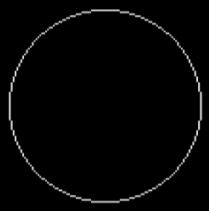
X=50,Y=150



Yash Sarang
D6AD - 47

Recording has started

X=400,Y=150



Yash Sarang
D6AD - 47