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CSE-458

1 no ans:- CSE 458 Computer Graphics

Ans. to the ques. no - 02

Scan conversion: The process of representing continues graphics objects as a collection of discrete pixels is called scan conversion.

Application of computer graphics:

① computer art: Using computer graphics we can create fine and commercial art which include animation packages, paint packages.

② Computer graphics is used in the development of educational software for making computer aided instruction.

Ans to the ques. no - 03

```
void algo_bt (int x1, int y1, int x2, int y2) {
    glbegin(GL_POINTS);
    glVertex2i (x1, y1);
    int dx = abs (x2 - x1);
    int dy = abs (y2 - y1);
    int incx = x2 < x1 ? -1 : 1;
    int incy = y2 < y1 ? -1 : 1;
```

```
int x = x1;
int y = y1;
int e = dx>dy ? 2*dy-dx : 2*dx-dy;
int ifst = dx>dy ? 2*(dy-dx) : 2*(dx-dy);
int isec = dx>dy ? 2*dy : 2*dx;
int limit = dx>dy ? dx : dy;
for(int i=0; i<limit; i++){
    if(e>=0){
        if(dx>dy) y += incy;
        if(dx<=dy) x += incx;
    }else
        e += isec;
    if(dx>dy) x += incx;
    if(dx<=dy) y += incy;
    glVertex2i(x,y);
}
glEnd();
glBegin();
}
void main_functionality(){
algo_1st(100,100,300,100);
algo_1st(300,100,300,200);
algo_1st(300,200,100,200);
algo_1st(100,200,100,100);
algo_1st(200,200,100,100);
algo_1st(200,200,300,100);
}
```

Ans. to the ques. no - 04

DDA: Digital Different Analyzer

Ans. to the ques. no - 05

x	y
1	1
2	0.5
3	2
4	2.5
5	3

$y = mx + b$

$m = 2/4 = 0.5$

$b = 3 - 0.5 * 5$

$= 3 - 2.5$

$= 0.5$

$y = \frac{x}{2} + b$

Ans. to the ques. no - 06

DDA uses floating points whose as Bresenham algorithm use fixed points. DDA round off the co-ordinates to nearest integer but Bresenham algorithm does not. Bresenham algorithm is much accurate and efficient than DDA. It can draw circles, curves with much more accuracy.

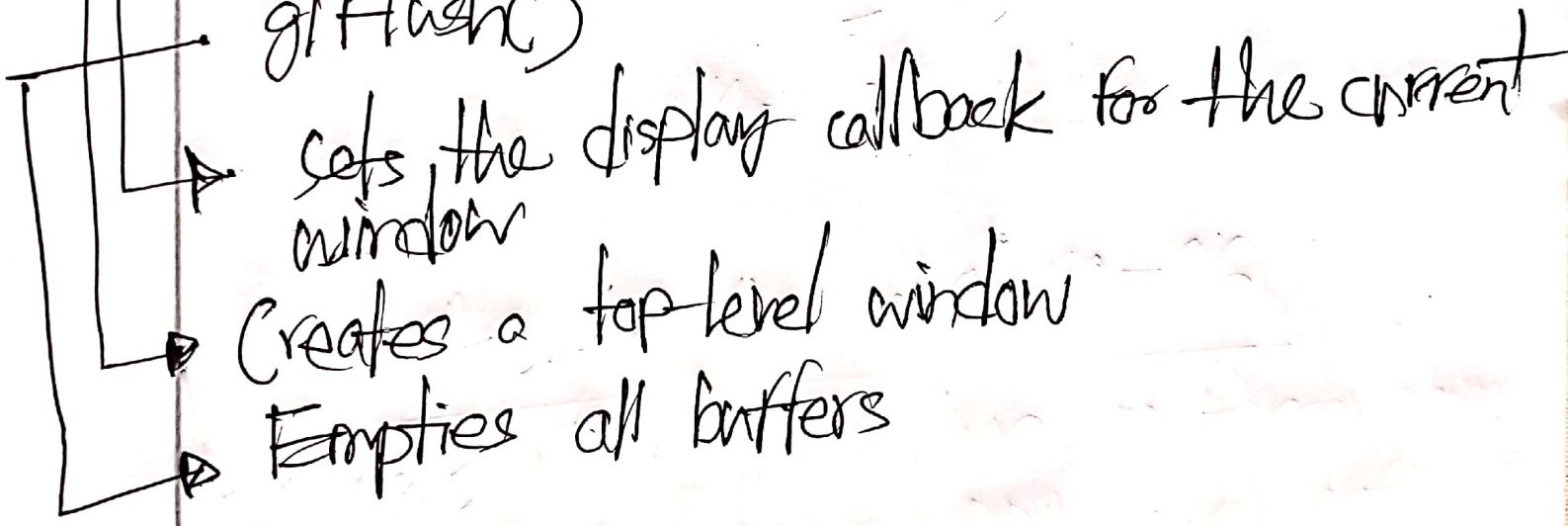
Ans. to the ques. no - 08

glut.dll : C:/Windows/System32

glut.h : C:/Program Files/Codeblocks/MinGW/lib

Ans to the ques. no - 09

- glutDisplayFunc(user_defined_function_name)
- glutCreateWindow("our window name")
- glFlush()



- sets the display callback for the current window
- Creates a top-level window
- Empties all buffers