21401

Page No.
Date: / /

ASSIGNMENT G-2

Problem Statement :

Write a C++/Java program to stimulate stack using Open GL

Objectives :

To implement open GL functions to generate 2D and 3D figures. To implement animation of 2D objects in open GL.

Outcomes :

1) To understand and implement open GL functions.
2) To understand animation in OpenGL.

Theory :

OpenGL (open graphics library) is standard specification defining a cross language, cross platform API for writing application that produce 2D and 3D computer graphics. It is a low level procedural API, requiring the programmer to dictate the exact steps.

Algorithms :

```
void display () {
    glclear (GL_COLOR_BUFFER_BIT);
    glBegin (GL_QUADS);
    glcolor 3f (1.0, 0.0, 0.0);
    glverten 2f (2, y);
```

Page No. _____
Date: / /

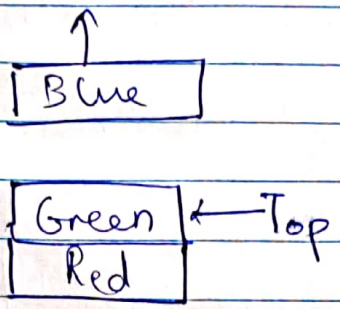
```
glvertex2f(-2, y);
glvertex2f(-2, y+2);
glvertex2f(2, y+2);

if (flag>1){
    glcolor3f(0.0, 1.0, 0.0);
    glvertex2f(2, y2);
    glvertex2f(-2, y2);
    glvertex2f(-2, y2+2);
    glvertex2f(2, y2+2);
}
if (flag>2 && flag<5){
    glcolor3f(0.0, 0.0, 1.0);
    glvertex2f(2, y3);
    glvertex2f(-2, y3+2);
    glvertex2f(2, y3+2);
}
if (flag>4){
    glcolor3f(1.0, 1.0, 0.0);
    glvertex2f(2, y4);
    glvertex2f(-2, y4);
    glvertex2f(-2, y4+2);
    glvertex2f(+2, y4+2);
}
glEnd(); glutSwapBuffers();
}
```

21401

Page No.
Date: / /

Test Cases:

Push red
Push Green
Push Blue
Push Blue



Success

Conclusion:

Thus the stack simulation was implemented using openGL.