**Lab Taks-2**

Submission Guidelines-

* Rename the file to your id only. If your id is 18-XXXXX-1, then the file name must be 18-XXXXX-1.docx.
* Must submit within time that will be discussed in class VUES to the section named Lab Tak-2
* Must include resources for all the section in the table

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| **Question- 1**  Draw a Rainbow Flag   |  | | --- | |  | |  | |  | |  | |  | |  | |  | |
| **Graph Plot (Picture)-** |
| **Code-**  **#include <windows.h>**  **#include <GL/glut.h>**  **void display() {**  **glClearColor(1.0f, 1.0f, 1.0f, 1.0f);**  **glBegin(GL\_POLYGON);**  **glColor3f(1.0f, 0.0f, 0.0f);**  **glVertex2f(0.0f, 0.0f);**  **glVertex2f(16.0f, 0.0f);**  **glVertex2f(16.0f, 2.0f);**  **glVertex2f(0.0f, 2.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.9f, 1.0f, 0.0f);**  **glVertex2f(0.0f, 2.0f);**  **glVertex2f(16.0f, 2.0f);**  **glVertex2f(16.0f, 4.0f);**  **glVertex2f(0.0f, 4.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(1.0f, 0.53f, 0.0f);**  **glVertex2f(0.0f, 4.0f);**  **glVertex2f(16.0f, 4.0f);**  **glVertex2f(16.0f, 6.0f);**  **glVertex2f(0.0f, 6.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.24f, 0.58f, 0.25f);**  **glVertex2f(0.0f, 6.0f);**  **glVertex2f(16.0f, 6.0f);**  **glVertex2f(16.0f, 8.0f);**  **glVertex2f(0.0f, 8.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.0f, 0.5f, 1.0f);**  **glVertex2f(0.0f, 8.0f);**  **glVertex2f(16.0f, 8.0f);**  **glVertex2f(16.0f, 10.0f);**  **glVertex2f(0.0f, 10.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.0f, 0.25f, 1.0f);**  **glVertex2f(0.0f, 10.0f);**  **glVertex2f(16.0f, 10.0f);**  **glVertex2f(16.0f, 12.0f);**  **glVertex2f(0.0f, 12.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.4f, 0.1f, 0.9f);**  **glVertex2f(0.0f, 12.0f);**  **glVertex2f(16.0f, 12.0f);**  **glVertex2f(16.0f, 14.0f);**  **glVertex2f(0.0f, 14.0f);**  **glEnd();**  **glFlush();**  **}**  **int main(int argc, char\*\* argv) {**  **glutInit(&argc, argv);**  **glutCreateWindow("OpenGL Setup Test");**  **glutInitWindowSize(320, 320);**  **glutDisplayFunc(display);**  **gluOrtho2D(-20,20,-20,20);**  **glutMainLoop();**  **}** |
| **Output Screenshot (Full Screen)-** |

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| **Question- 2**  Draw 4X4 Chess Board |
| **Graph Plot (Picture)-** |
| **Code-**  **#include <windows.h>**  **#include <GL/glut.h>**  **void display() {**  **glClearColor(1.0f, 1.0f, 1.0f, 1.0f);**  **glClear(GL\_COLOR\_BUFFER\_BIT);**  **glLineWidth(1.0);**  **glBegin(GL\_POLYGON);**  **glColor3f(1.0f, 1.0f, 1.0f);**  **glVertex2f(0.0f, 0.0f);**  **glVertex2f(4.0f, 0.0f);**  **glVertex2f(4.0f, 4.0f);**  **glVertex2f(0.0f, 4.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(4.0f, 0.0f);**  **glVertex2f(8.0f, 0.0f);**  **glVertex2f(8.0f, 4.0f);**  **glVertex2f(4.0f, 4.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(1.0f, 1.0f, 1.0f);**  **glVertex2f(8.0f, 0.0f);**  **glVertex2f(12.0f, 0.0f);**  **glVertex2f(12.0f, 4.0f);**  **glVertex2f(8.0f, 4.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(12.0f, 0.0f);**  **glVertex2f(16.0f, 0.0f);**  **glVertex2f(16.0f, 4.0f);**  **glVertex2f(12.0f, 4.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(0.0f, 4.0f);**  **glVertex2f(4.0f, 4.0f);**  **glVertex2f(4.0f, 8.0f);**  **glVertex2f(0.0f, 8.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(1.0f, 1.0f, 1.0f);**  **glVertex2f(4.0f, 4.0f);**  **glVertex2f(8.0f, 4.0f);**  **glVertex2f(8.0f, 8.0f);**  **glVertex2f(4.0f, 8.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(8.0f, 4.0f);**  **glVertex2f(12.0f, 4.0f);**  **glVertex2f(12.0f, 8.0f);**  **glVertex2f(8.0f, 8.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(1.0f, 1.0f, 1.0f);**  **glVertex2f(12.0f, 4.0f);**  **glVertex2f(16.0f, 4.0f);**  **glVertex2f(16.0f, 8.0f);**  **glVertex2f(12.0f, 8.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(1.0f, 1.0f, 1.0f);**  **glVertex2f(0.0f, 8.0f);**  **glVertex2f(4.0f, 8.0f);**  **glVertex2f(4.0f, 12.0f);**  **glVertex2f(0.0f, 12.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(4.0f, 8.0f);**  **glVertex2f(8.0f, 8.0f);**  **glVertex2f(8.0f, 12.0f);**  **glVertex2f(4.0f, 12.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(1.0f, 1.0f, 1.0f);**  **glVertex2f(8.0f, 8.0f);**  **glVertex2f(12.0f, 8.0f);**  **glVertex2f(12.0f, 12.0f);**  **glVertex2f(8.0f, 12.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(12.0f, 8.0f);**  **glVertex2f(16.0f, 8.0f);**  **glVertex2f(16.0f, 12.0f);**  **glVertex2f(12.0f, 12.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(0.0f, 12.0f);**  **glVertex2f(4.0f, 12.0f);**  **glVertex2f(4.0f, 16.0f);**  **glVertex2f(0.0f, 16.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(1.0f, 1.0f, 1.0f);**  **glVertex2f(4.0f, 12.0f);**  **glVertex2f(8.0f, 12.0f);**  **glVertex2f(8.0f, 16.0f);**  **glVertex2f(4.0f, 16.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(8.0f, 12.0f);**  **glVertex2f(12.0f, 12.0f);**  **glVertex2f(12.0f, 16.0f);**  **glVertex2f(8.0f, 16.0f);**  **glEnd();**  **glBegin(GL\_POLYGON);**  **glColor3f(1.0f, 1.0f, 1.0f);**  **glVertex2f(12.0f, 12.0f);**  **glVertex2f(16.0f, 12.0f);**  **glVertex2f(16.0f, 16.0f);**  **glVertex2f(12.0f, 16.0f);**  **glEnd();**  **glBegin(GL\_LINES);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(0.0f, 0.0f);**  **glVertex2f(16.0f, 0.0f);**  **glEnd();**  **glBegin(GL\_LINES);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(16.0f, 0.0f);**  **glVertex2f(16.0f, 16.0f);**  **glEnd();**  **glBegin(GL\_LINES);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(16.0f, 16.0f);**  **glVertex2f(0.0f, 16.0f);**  **glEnd();**  **glBegin(GL\_LINES);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(0.0f, 16.0f);**  **glVertex2f(0.0f, 0.0f);**  **glEnd();**  **glFlush();**  **}**  **int main(int argc, char\*\* argv) {**  **glutInit(&argc, argv);**  **glutCreateWindow("OpenGL Setup Test");**  **glutInitWindowSize(320, 320);**  **glutDisplayFunc(display);**  **gluOrtho2D(-20,20,-20,20);**  **glutMainLoop();**  **}** |
| **Output Screenshot (Full Screen)-** |

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| **Question- 3**  Create the batman logo given below- |
| **Graph Plot (Picture)-**  **(Not Needed)** |
| **Code-** |
| **Output Screenshot (Full Screen)-** |