**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(0.60f, 0.60f, 0.60f, 1.0f);**  **glClear(GL\_COLOR\_BUFFER\_BIT);**  **glBegin(GL\_QUADS);**  **glColor3ub(075.0f, 0.0f, 130.0f);**  **glVertex2f(-0.8f, 0.5f);**  **glVertex2f(0.8f, 0.5f);**  **glVertex2f(0.8f, 0.7f);**  **glVertex2f(-0.8f, 0.7f);**  **glEnd();**  **glBegin(GL\_QUADS);**  **glColor3ub(00.0f, 0.0f, 0255.0f);**  **glVertex2f(-0.8f, 0.3f);**  **glVertex2f(0.8f, 0.3f);**  **glVertex2f(0.8f, 0.5f);**  **glVertex2f(-0.8f, 0.5f);**  **glEnd();**  **glBegin(GL\_QUADS);**  **glColor3ub(49.0f, 195.0f, 252.0f);**  **glVertex2f(-0.8f, 0.1f);**  **glVertex2f(0.8f, 0.1f);**  **glVertex2f(0.8f, 0.3f);**  **glVertex2f(-0.8f, 0.3f);**  **glEnd();**  **glBegin(GL\_QUADS);**  **glColor3ub(00.0f, 0255.0f, 0.0f);**  **glVertex2f(-0.8f, -0.1f);**  **glVertex2f(0.8f, -0.1f);**  **glVertex2f(0.8f, 0.1f);**  **glVertex2f(-0.8f, 0.1f);**  **glEnd();**  **glBegin(GL\_QUADS);**  **glColor3ub(255.0f, 127.0f, 0.0f);**  **glVertex2f(-0.8f, -0.3f);**  **glVertex2f(0.8f, -0.3f);**  **glVertex2f(0.8f, -0.1f);**  **glVertex2f(-0.8f, -0.1f);**  **glEnd();**  **glBegin(GL\_QUADS);**  **glColor3ub(0255.0f, 0255.0f, 0.0f);**  **glVertex2f(-0.8f, -0.5f);**  **glVertex2f(0.8f, -0.5f);**  **glVertex2f(0.8f, -0.3f);**  **glVertex2f(-0.8f, -0.3f);**  **glEnd();**  **glBegin(GL\_QUADS);**  **glColor3ub(255.0f, 0.0f, 0.0f);**  **glVertex2f(-0.8f, -0.7f);**  **glVertex2f(0.8f, -0.7f);**  **glVertex2f(0.8f, -0.5f);**  **glVertex2f(-0.8f, -0.5f);**  **glEnd();**  **glFlush();**  **}**  **int main(int argc, char\*\* argv) {**  **glutInit(&argc, argv);**  **glutCreateWindow("Flag");**  **glutInitWindowSize(320, 320);**  **glutDisplayFunc(display);**  **glutMainLoop();**  **return 0;**  **}** |
| **Output Screenshot (Full Screen)-** |

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| **Question- 2**  Draw 4X4 Chess Board |
| **Graph Plot (Picture)-**  **A screenshot of a computer  Description automatically generated** |
| **Code-#include <windows.h>**  **#include <GL/glut.h>**  **void display(){**  **glClearColor(0.60f, 0.60f, 0.60f, 1.0f);**  **glClear(GL\_COLOR\_BUFFER\_BIT);**  **//1**  **glBegin(GL\_QUADS);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(-0.2f, 0.2f);**  **glVertex2f(-0.2, 0.1f);**  **glVertex2f(-0.1f, 0.1f);**  **glVertex2f(-0.1f, 0.2f);**  **glEnd();**  **//2**  **glBegin(GL\_QUADS);**  **glColor3f(01.0f, 1.0f, 1.0f);**  **glVertex2f(-0.1f, 0.2f);**  **glVertex2f(-0.1, 0.1f);**  **glVertex2f(0.0f, 0.1f);**  **glVertex2f(0.0f, 0.2f);**  **glEnd();**  **//3**  **glBegin(GL\_QUADS);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(0.0f, 0.2f);**  **glVertex2f(0.0f, 0.1f);**  **glVertex2f(0.1f, 0.1f);**  **glVertex2f(0.1f, 0.2f);**  **glEnd();**  **//4**  **glBegin(GL\_QUADS);**  **glColor3f(1.0f, 1.0f, 1.0f);**  **glVertex2f(0.1f, 0.2f);**  **glVertex2f(0.1, 0.1f);**  **glVertex2f(0.2f, 0.1f);**  **glVertex2f(0.2f, 0.2f);**  **glEnd();**  **//5**  **glBegin(GL\_QUADS);**  **glColor3f(1.0f, 1.0f, 1.0f);**  **glVertex2f(-0.2f, 0.1f);**  **glVertex2f(-0.2, 0.0f);**  **glVertex2f(-0.1f, 0.0f);**  **glVertex2f(-0.1f, 0.1f);**  **glEnd();**  **//6**  **glBegin(GL\_QUADS);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(-0.1f, 0.1f);**  **glVertex2f(-0.1f, 0.0f);**  **glVertex2f(0.0f, 0.0f);**  **glVertex2f(0.0f, 0.1f);**  **glEnd();**  **//7**  **glBegin(GL\_QUADS);**  **glColor3f(1.0f, 1.0f, 1.0f);**  **glVertex2f(0.f, 0.1f);**  **glVertex2f(0.0f, 0.0f);**  **glVertex2f(0.1f, 0.0f);**  **glVertex2f(0.1f, 0.1f);**  **glEnd();**  **//8**  **glBegin(GL\_QUADS);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(0.1f, 0.1f);**  **glVertex2f(0.1f, 0.0f);**  **glVertex2f(0.2f, 0.0f);**  **glVertex2f(0.2f, 0.1f);**  **glEnd();**  **//9**  **glBegin(GL\_QUADS);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(-0.2f, 0.0f);**  **glVertex2f(-0.2f, -0.1f);**  **glVertex2f(-0.1f, -0.1f);**  **glVertex2f(-0.1f, 0.0f);**  **glEnd();**  **//10**  **glBegin(GL\_QUADS);**  **glColor3f(01.0f, 1.0f, 1.0f);**  **glVertex2f(-0.1f, 0.0f);**  **glVertex2f(-0.1f, -0.1f);**  **glVertex2f(0.0f, -0.1f);**  **glVertex2f(0.0f, 0.0f);**  **glEnd();**  **//11**  **glBegin(GL\_QUADS);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(0.0f, 0.0f);**  **glVertex2f(0.0f, -0.1f);**  **glVertex2f(0.1f, -0.1f);**  **glVertex2f(0.1f, 0.0f);**  **glEnd();**  **//12**  **glBegin(GL\_QUADS);**  **glColor3f(01.0f, 1.0f, 1.0f);**  **glVertex2f(0.1f, 0.0f);**  **glVertex2f(0.1f, -0.1f);**  **glVertex2f(0.2f, -0.1f);**  **glVertex2f(0.2f, 0.0f);**  **glEnd();**  **//13**  **glBegin(GL\_QUADS);**  **glColor3f(01.0f, 1.0f, 1.0f);**  **glVertex2f(-0.2f, -0.1f);**  **glVertex2f(-0.2, -0.2f);**  **glVertex2f(-0.1f, -0.2f);**  **glVertex2f(-0.1f, -0.1f);**  **glEnd();**  **//14**  **glBegin(GL\_QUADS);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(-0.1f,-0.1f);**  **glVertex2f(-0.1, -0.2f);**  **glVertex2f(0.0f, -0.2f);**  **glVertex2f(0.0f, -0.1f);**  **glEnd();**  **//15**  **glBegin(GL\_QUADS);**  **glColor3f(01.0f, 1.0f, 1.0f);**  **glVertex2f(0.0f, -0.1f);**  **glVertex2f(0.0f, -0.2f);**  **glVertex2f(0.1f, -0.2f);**  **glVertex2f(0.1f, -0.1f);**  **glEnd();**  **//16**  **glBegin(GL\_QUADS);**  **glColor3f(0.0f, 0.0f, 0.0f);**  **glVertex2f(0.1f, -0.1f);**  **glVertex2f(0.1, -0.2f);**  **glVertex2f(0.2f, -0.2f);**  **glVertex2f(0.2f, -0.1f);**  **glEnd();**  **glFlush();**  **}**  **int main(int argc, char\*\* argv) {**  **glutInit(&argc, argv);**  **glutCreateWindow("Flag");**  **glutInitWindowSize(320, 320);**  **glutDisplayFunc(display);**  **glutMainLoop();**  **return 0;**  **}** |
| **Output Screenshot (Full Screen)-** |

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| **Question- 3**  Create the batman logo given below- |
| **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);  glBegin(GL\_POLYGON);  glColor3f(0.0f, 0.0f, 0.0f);  glVertex2f(0.011f,0.53f);  glVertex2f(-0.013f,0.53f);  glVertex2f(-0.05f,0.62f);  glVertex2f(-0.05f,0.5f);  glVertex2f(-0.08f,0.45f);  glVertex2f(-0.11f,0.45f);  glVertex2f(-0.15f,0.5f);  glVertex2f(-0.5f,0.5f);  glVertex2f(-0.322f,0.488f);  glVertex2f(-0.298f,0.421f);  glVertex2f(-0.31f,0.37f);  glVertex2f(-0.36f,0.28f);  glVertex2f(-0.22f,0.327f);  glVertex2f(-0.1f,0.28f);  glVertex2f(-0.05f,0.2f);  glVertex2f(0.0f,0.0f);  glVertex2f(0.05f,0.2f);  glVertex2f(0.098f,0.28f);  glVertex2f(0.23f,0.3f);  glVertex2f(0.36f,0.28f);  glVertex2f(0.31f,0.38f);  glVertex2f(0.3f,0.42f);  glVertex2f(0.33f,0.45f);  glVertex2f(0.5f,0.5f);  glVertex2f(0.15f,0.5f);  glVertex2f(0.11f,0.45f);  glVertex2f(0.08f,0.45f);  glVertex2f(0.06f,0.5f);  glVertex2f(0.05f,0.62f);  glEnd();  glFlush();  }  int main(int argc, char\*\* argv)  {  glutInit(&argc, argv);  glutCreateWindow("Batman");  glutInitWindowSize(320, 320);  glutDisplayFunc(display);  glutMainLoop();  return 0;  } |
| **Output Screenshot (Full Screen)-**  **A computer screen with a black screen  Description automatically generated** |