**9. Write a program to model a car like figure using display lists and move a car from one end of the screen to other end. User is able to control the speed with mouse.**

#include<GL/glut.h>

#include<math.h>

#include<stdio.h>

#define CAR 1

#define WHEEL 2

float s = 1;

void carlist() {

glNewList(CAR, GL\_COMPILE);

glColor3f(1, 1, 1);

glBegin(GL\_POLYGON);

glVertex3f(0, 25, 0);

glVertex3f(90, 25, 0);

glVertex3f(90, 55, 0);

glVertex3f(80, 55, 0);

glVertex3f(20, 75, 0);

glVertex3f(0, 55, 0);

glEnd();

glEndList();

}

void wheellist() {

glNewList(WHEEL, GL\_COMPILE\_AND\_EXECUTE);

glColor3f(0, 1, 1);

glutSolidSphere(10, 25, 25);

glEndList();

}

void mykeyboard(unsigned char key, int x, int y) {

switch (key) {

case 't': glutPostRedisplay();

break;

case 'q': exit(0);

default: break;

}

}

void myInit() {

glClearColor(0, 0, 0, 0);

glOrtho(0, 600, 0, 600, 0, 600);

}

void draw\_wheel() {

glColor3f(0, 1, 1);

glutSolidSphere(10, 25, 25);

}

void moveCar(float s) {

glTranslatef(s, 0.0, 0.0);

glCallList(CAR);

glPushMatrix();

glTranslatef(25, 25, 0.0); //move to first wheel position

//draw\_wheel();

glCallList(WHEEL);

glPopMatrix();

glPushMatrix();

glTranslatef(75, 25, 0.0); //move to 2nd wheel position

////draw\_wheel();

glCallList(WHEEL);

glPopMatrix();

glFlush();

}

void myDisp() {

glClear(GL\_COLOR\_BUFFER\_BIT);

carlist();

moveCar(s);

wheellist();

}

void mouse(int btn, int state, int x, int y) {

if (btn == GLUT\_LEFT\_BUTTON && state == GLUT\_DOWN) {

s += 5;

myDisp();

}

else if (btn == GLUT\_RIGHT\_BUTTON && state == GLUT\_DOWN) {

s += 2;

myDisp();

}

}

int main(int argc, char\* argv[]) {

glutInit(&argc, argv);

glutInitDisplayMode(GLUT\_SINGLE | GLUT\_RGB);

glutInitWindowSize(600, 500);

glutInitWindowPosition(100, 100);

glutCreateWindow("car");

myInit();

glutDisplayFunc(myDisp);

glutMouseFunc(mouse);

glutKeyboardFunc(mykeyboard);

glutMainLoop();

}

**Output:-**





