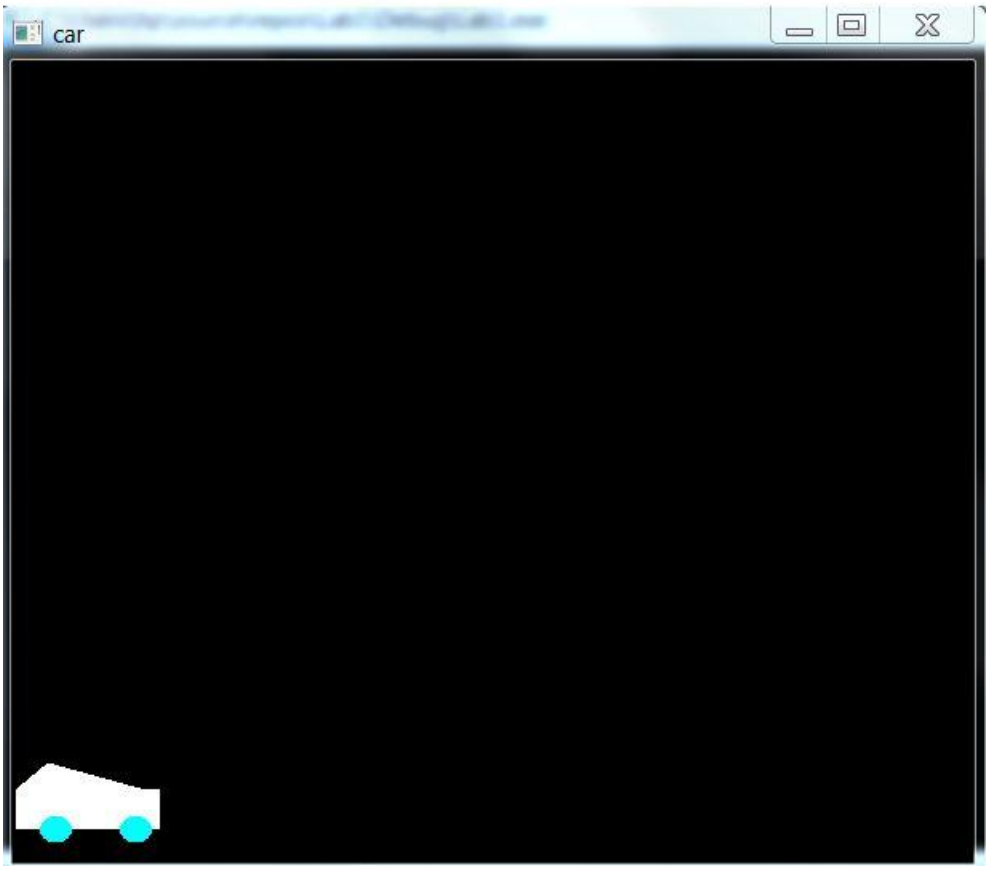
9. Write a program to model a car like figure using display lists and move a car from one end of the screen to other end. User is able to control the speed with mouse.

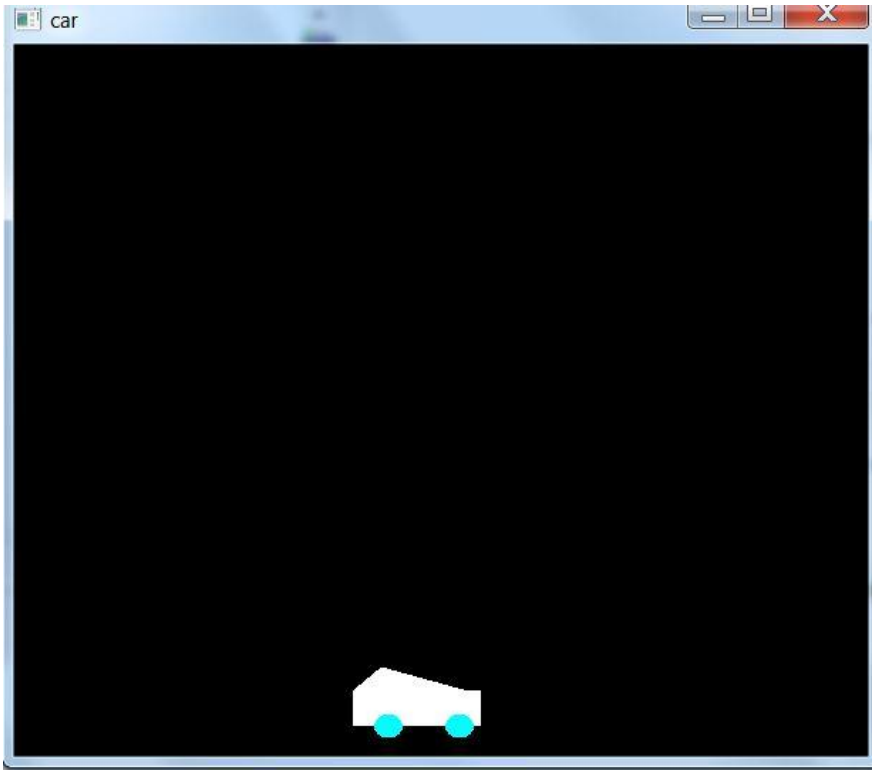
```
#include<GL/glut.h>
#include<math.h>
#include<stdio.h>
#define CAR 1
#define WHEEL 2
float s = 1;
void carlist() {

	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);
```

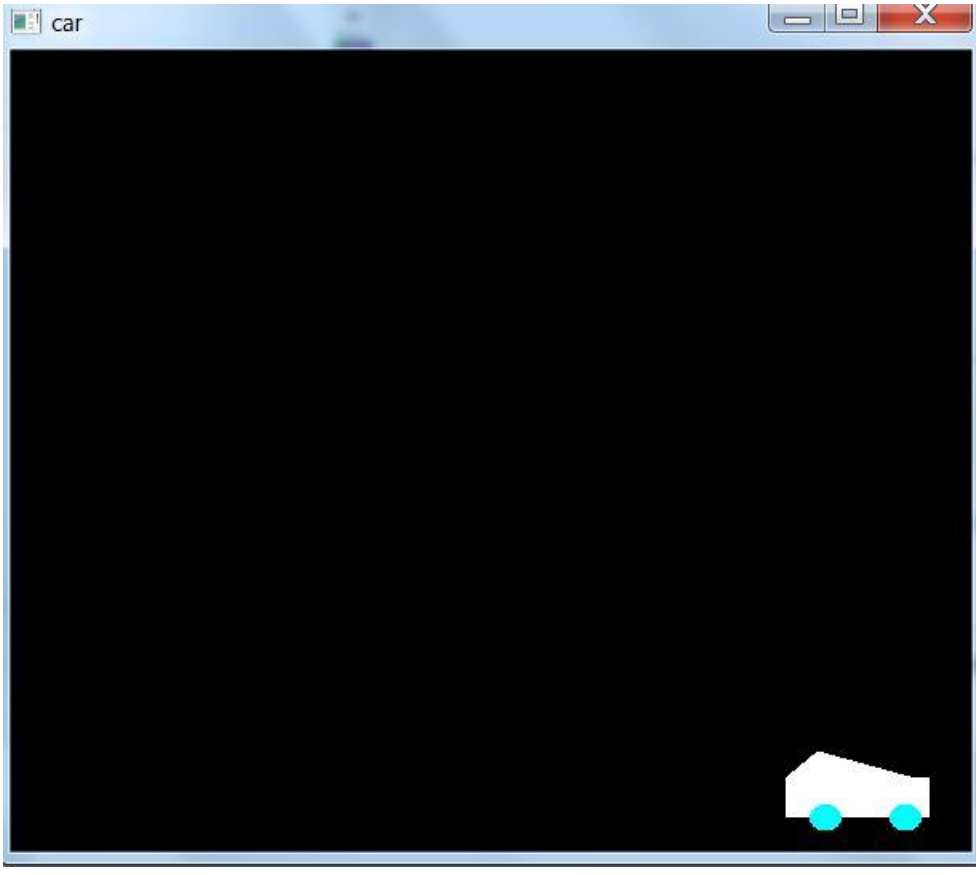
```
}
void draw_wheel() {
	glColor3f(0, 1, 1);
	glutSolidSphere(10, 25, 25);

}

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:-




car


car