```javascript
/*敌方小飞机的创建---start*/
var mainObj=document.getElementById("main");
var smallPlaneArray=[];
var bulletArray=[];//子弹数组
var leftBtn=false;//按键开关
var upBtn=false;
var rightBtn=false;
var downBtn=false;
var shootBtn=false;//子弹发射状态
//杀敌数量
var killNum=document.getElementById("killNum");
//分数
var killScore=document.getElementById("killScore");
var startmusic=document.getElementById("startmusic");
var zdmusic=document.getElementById("zdmusic");
startmusic.play();
var player=new playerPlaneProto("images/b.jpg",50,500,10);
var smallPlaneTimer=setInterval( createSmallPlane,1000);//创建小飞机
var smallPlaneMoveTimer=setInterval(smallPlaneMove,50);//小飞机移动
var ctrlPlayTimer=setInterval(ctrlPlay,30);//30毫秒监听一次是否按下
键盘
var bulletMoveTimer=setInterval(bulletMove,10);//子弹移动
var crashCheckTimer=setInterval( crashCheck,50);//判断碰撞

//界面
var stop=document.getElementById("stop");
//暂停游戏
function mystopgame(){
    stop.style.display="block";
    clearInterval(smallPlaneTimer);
    clearInterval(smallPlaneMoveTimer);
    clearInterval(bulletMoveTimer);
    clearInterval(crashCheckTimer);
    startmusic.pause();
    zdmusic.pause();
}
//继续游戏
function continuegame(){
    stop.style.display="none";
    smallPlaneTimer=setInterval( createSmallPlane,1000);
    smallPlaneMoveTimer=setInterval(smallPlaneMove,50);
    ctrlPlayTimer=setInterval(ctrlPlay,30);
    bulletMoveTimer=setInterval(bulletMove,10);
    crashCheckTimer=setInterval( crashCheck,50);
```

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        startmusic.play();

}
//新游戏
function newgame(){
    stop.style.display="none";
    mainObj.removeChild(player.imgNode);
    player=null;
    for(var i=0;i<smallPlaneArray.length;i++){
        mainObj.removeChild(smallPlaneArray[i].imgNode);
    }
    smallPlaneArray.splice(0,smallPlaneArray.length);
    for(var i=0;i<bulletArray.length;i++){
        mainObj.removeChild(bulletArray.imgNode);
    }
    bulletArray.splice(0,bulletArray.length);
    killNum.innerHTML=0;
    killScore.innerHTML=0;
    smallPlaneTimer=setInterval( createSmallPlane,1000);
    smallPlaneMoveTimer=setInterval(smallPlaneMove,50);
    ctrlPlayTimer=setInterval(ctrlPlay,30);
    bulletMoveTimer=setInterval(bulletMove,10);
    crashCheckTimer=setInterval( crashCheck,50);
    startmusic.play();
    zdmusic.play();
    player=new playerPlaneProto("images/b.jpg",50,500,10);
}

function SmallPlaneProto(imgSrc,x,y,speed){
    this.imgNode=document.createElement("img");//创建结点
    this.imgSrc=imgSrc;
    this.x=x;
    this.y=y;
    this.isDead=false;//地方小飞机存活状态
    this.exTime=30;//敌方小飞机死亡倒计时
    this.speed=speed;
    this.init=function(){/*初始化的方法*/
        this.imgNode.src=this.imgSrc;
        this.imgNode.style.position="absolute";
        this.imgNode.style.left=this.x+"px";
        this.imgNode.style.top=this.y+"px";
        mainObj.appendChild(this.imgNode);//添加到舞台当中
    }
    this.init();
```

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    this.move=function(){

this.imgNode.style.top=parseInt(this.imgNode.style.top)+this.speed+"
px";//小飞机的位置坐标

    }
}
function createSmallPlane(){
    var smallPlane=new
SmallPlaneProto("images/p.jpg",parseInt(Math.random()*350),-
parseInt(Math.random()*100+40),parseInt(Math.random()*10)+1);
    smallPlaneArray.push(smallPlane);
}

//敌方小飞机移动
function smallPlaneMove(){
    for(var i=0;i<smallPlaneArray.length;i++){
        if(smallPlaneArray[i].isDead==false){
            //活着时才有移动的方法
            smallPlaneArray[i].move();
            if(parseInt(smallPlaneArray[i].imgNode.style.top)>=600){
                mainObj.removeChild( smallPlaneArray[i].imgNode);
                smallPlaneArray.splice(i,1);
            }
        }else{
            //死亡
            //倒计时
            //死亡是，倒计时每隔50毫秒，从30减少到0的时当前候销毁
小飞机
            smallPlaneArray[i].exTime--;
            if( smallPlaneArray[i].exTime==0){
                mainObj.removeChild( smallPlaneArray[i].imgNode);
                smallPlaneArray.splice(i,1);
            }
        }
    }
}




function playerPlaneProto(imgSrc,x,y,speed){
    this.imgNode=document.createElement("img");//创建结点
    this.imgSrc=imgSrc;
    this.x=x;
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        this.y=y;
        this.speed=speed;
        this.init=function(){/*初始化的方法*/
                this.imgNode.src=this.imgSrc;
                this.imgNode.style.position="absolute";
                this.imgNode.style.left=this.x+"px";
                this.imgNode.style.top=this.y+"px";
                mainObj.appendChild(this.imgNode);//添加到舞台当中
        }
        this.init();
        this.moveLeft=function(){
                //到时候根据判断玩家的按键来执行此事件
                if(this.imgNode.style.left=="-80px"){
                    this.imgNode.style.left="440px";
                }else{

this.imgNode.style.left=parseInt(this.imgNode.style.left)-
this.speed+"px";


                }
        }
        this.shoot=function(){//发射子弹
                var newBullet=new
bulletProto("images/d.jpg",parseInt(this.imgNode.style.left)+25,parse
Int(this.imgNode.style.top)-10,10);
                bulletArray.push(newBullet);
        }
        this.moveRight=function(){
                //到时候根据判断玩家的按键来执行此事件
                if(this.imgNode.style.left=="440px"){
                    this.imgNode.style.left="80px";
                }else{

this.imgNode.style.left=parseInt(this.imgNode.style.left)+this.speed
+"px";
                }
        }

        this.shoot=function(){//发射子弹
                var newBullet=new
bulletProto("images/d.jpg",parseInt(this.imgNode.style.left)+25,parse
Int(this.imgNode.style.top)-10,10);
                bulletArray.push(newBullet);
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        }



    this.moveUp=function(){

        if(this.imgNode.style.top=="0px"){
            this.imgNode.style.top="0px";
        }else{
            this.imgNode.style.top=parseInt(this.imgNode.style.top)-
this.speed+"px";
        }
    }
    this.shoot=function(){//发射子弹
        var newBullet=new
bulletProto("images/d.jpg",parseInt(this.imgNode.style.left)+25,parse
Int(this.imgNode.style.top)-10,10);
        bulletArray.push(newBullet);
    }


    this.moveDown=function(){
        //到时候根据判断玩家的按键来执行此事件
        if(this.imgNode.style.top=="520px"){
            this.imgNode.style.top="520px";
        }else{

this.imgNode.style.top=parseInt(this.imgNode.style.top)+this.speed+"
px";
        }
    }
    this.shoot=function(){//发射子弹
        var newBullet=new
bulletProto("images/d.jpg",parseInt(this.imgNode.style.left)+25,parse
Int(this.imgNode.style.top)-10,10);
        bulletArray.push(newBullet);
    }

}

//在 body 中按下键盘时，移动玩家飞机
document.body.onkeydown=function(){
    var e=window.evevt||arguments[0];
    if(e.keyCode==37){
        leftBtn=true;
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        }
        if(e.keyCode==38){
            upBtn=true;
        }
        if(e.keyCode==39){
            rightBtn=true;
        }
        if(e.keyCode==40){
            downBtn=true;
        }
        if(e.keyCode==32){
            shootBtn=true;
        }
    }
    document.body.onkeyup=function(){
        var e=window.evevt||arguments[0];
        if(e.keyCode==37){
            leftBtn=false;
        }
        if(e.keyCode==38){
            upBtn=false;
        }
        if(e.keyCode==39){
            rightBtn=false;
        }
        if(e.keyCode==40){
            downBtn=false;
        }
        if(e.keyCode==32){
            shootBtn=false;
        }
    }
    function ctrlPlay(){
        if( leftBtn==true){
            player.moveLeft();
        }
        if(rightBtn==true){
            player.moveRight();
        }
        if( upBtn==true){
            player.moveUp();
        }
        if(downBtn==true){
            player.moveDown();
```

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    }
    if(shootBtn==true){

        player.shoot();
        zdmusic.play();

    }
}

//子弹模板
function bulletProto(imgSrc,x,y,speed){
    this.imgNode=document.createElement("img");//创建结点
    this.imgSrc=imgSrc;
    this.x=x;
    this.y=y;
    this.speed=speed;
    this.init=function(){/*初始化的方法*/
        this.imgNode.src=this.imgSrc;
        this.imgNode.style.position="absolute";
        this.imgNode.style.left=this.x+"px";
        this.imgNode.style.top=this.y+"px";
        mainObj.appendChild(this.imgNode);//添加到舞台当中
    }
    this.init();
    this.move=function(){
        this.imgNode.style.top=parseInt(this.imgNode.style.top)-this.speed+"px";
    }
}
//子弹移动
function  bulletMove(){
    for(var i=0;i<bulletArray.length;i++){
        bulletArray[i].move();
        //跑到外面就消失
        if(parseInt(bulletArray[i].imgNode.style.top)<=-20){
            mainObj.removeChild( bulletArray[i].imgNode);
            bulletArray.splice(i,1);

        }
    }
}

//碰撞函数
function  crashCheck(){
```

```javascript
for(var i=0;i<smallPlaneArray.length;i++){
    for(var j=0;j<bulletArray.length;j++){
        //子弹左边
        var btLeft=parseInt(bulletArray[j].imgNode.style.left);
        //子弹顶部
        var btTop=parseInt(bulletArray[j].imgNode.style.top);
        //飞机顶部
        var plTop=parseInt( smallPlaneArray[i].imgNode.style.top);
        //飞机左边
        var plLeft=parseInt( smallPlaneArray[i].imgNode.style.left);
        //如果地方小飞机还活着
        if(smallPlaneArray[i].isDead==false){

            if(btLeft>=plLeft&&btLeft<=plLeft+50&&btTop>=plTop&&btTop<=plTop+50){
                //碰撞之后，移除子弹
                mainObj.removeChild(bulletArray[j].imgNode);
                bulletArray.splice(j,1);
                //地方小飞机做一个改变，替换图片路径
                smallPlaneArray[i].imgNode.src="images/a.jpg";
                //把地方小飞机的存活状态设置为死亡(有时候，一个字母的错误，都会导致代码运行不起来)
                smallPlaneArray[i].isDead=true;
                //杀敌积分
                killNum.innerHTML=parseInt(killNum.innerHTML)+1;

                killScore.innerHTML=parseInt(killScore.innerHTML)+3;
            }
        }
    }
}
```