НОВОСИБИРСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ

ВЫСШИЙ КОЛЛЕДЖ ИНФОРМАТИКИ

Кафедра информатики

Курсовой проект

Танчики

Отчет

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Группа: 907 В1

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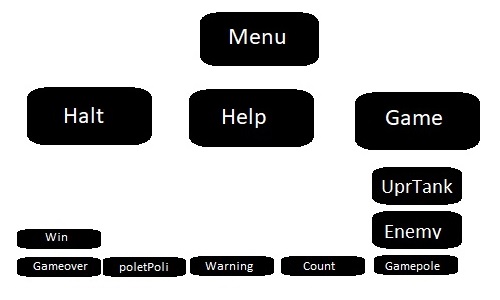
Оценка

Дата

Новосибирск, 2019

Содержание

1. Игровое поле – черный прямоугольник на фоне серого прямоугольника (1300х800). Черный прямоугольник – граница движений объектов. Объекты: 1) 1 танк, который управляется стрелочками на клавиатуре, может стрелять, пули разрушают стены и препятствия, убивают врага, не может стереть стены и выйти за границы черного экрана, съедает бонус, при этом получая дополнительную жизнь, изначально 3 жизни; 2) 1 враг – движение не управляется пользователем, в определенных точках может поменять направление, не может стереть стены или препятствия, так как не попадет на них по координатам, съедает бонус, при этом уменьшая количество убитых противников.  
    Цель – убить 10 врагов, при этом не умерев. Это выигрыш. Если у танка не осталось жизней – это проигрыш.   
   Помощь: *Это почти обычная игра в танки. Управление твоим танком на стрелочки. Стрелять на пробел. Враг не управляется. «Съев» бонус ты получаешь дополнительную жизнь, но будь внимателен – если ее «съест» враг, количество убитых врагов уменьшится. Сначала игры у тебя 3 жизни, цель – убить 10 врагов.*
2. Ваш танк (желтый) управляется с помощью стрелочек, стреляет он на пробел (максимальное число выпущенных пуль - 15). Танк противника имеет неуправляемое движение.



1. Функции:   
   1) loader(filename: string): pointer; var f: file; size: longint; p:pointer;– загружает файл

Процедуры:   
1) newAnim(sh, vs: integer; filename: string; var anim: AnimatType; col: longint); var p:pointer;– загружает анимацию

2) initData – в нее записываются все нужные переменные

3) initPict – в ней все картинки записываются в указатели

4) Warning – выводит предупреждение на экран, чтобы пользователь приготовился

5) Win – выводит надпись выигрыша

6) Gameover – выводит надпись проигрыша

7) Count – выводит статистику, решает, когда запускать Win или Gameover  
8) Enemy(var xEnemy, yEnemy: integer; hEnemy: integer); – неуправляемое движение

9) UprTank(var xTank, yTank: integer; shTank, vsTank, hTank: integer); var colWay: Boolean; – управляемое движение, управление на стрелочки

10) PoletPuli(var xPula, yPula: integer; hPula:integer; animPula: AnimatType);– движение пули

11) gamepole – отрисовка игрового поля и статистических показателей

12) game – процедура игры

13) help – пункт «помощь в меню»

14) menu – отрисовка меню

15) pausa – небольшая пауза в игре

5.

program ihts;

uses wingraph, wincrt, sysutils;

const left = #75;

up = #72;

right = #77;

down = #80;

esc = #27;

enter = #13;

probel = #32;

tab = #9;

n = 15;

var gd, gm,

xTank, yTank, hTank, vsTank, shTank,

xEnemy, yEnemy, hEnemy, shEnemy, vsEnemy, dirEnemy,

xStenaVert, yStenaVert, shStenaVert, vsStenaVert,

shStenaVertSmall, vsStenaVertSmall,

vsBlock, shBlock,

shPula, vsPula, hPula,

shKursor, vsKursor, np,

xLife, yLife,

sh, vs, i, k, l, dirTank,

kLevel, kLifes, kEnemies: integer; tankForward, tankBack, tankLeft, tankRight,

enemyForward, enemyRight, enemyLeft, enemyBack,

stenaVert, stenaVertSmall, stenaVertSmall2, stenaBlock, stenaGorizSmall, base,

menuBg, warningText, apple, explode: pointer;

ch:char;

put, kLifesStr, kEnemiesStr, kLevelStr: string;

xPula, yPula, dirPula: array[1..n] of integer; animPula: array[1..n] of AnimatType; pulaLog: array[1..n] of boolean;

animKursor, helpText: AnimatType;

pixelCur, pixelCurPula, pixelCurEnemy: longint;

EnemyExist: boolean;

// Functions

function loader(filename: string): pointer;

var f:file; size: longint; p:pointer;

begin

assign(f, filename);

if FileExists(filename) then

begin

reset(f, 1);

size := FileSize(f);

GetMem(p, size);

BlockRead(f, p^, size);

Close(f);

loader := p;

end;

end;

//Procedures

procedure newAnim(sh, vs: integer; filename: string; var anim: AnimatType; col: longint);

var p: pointer;

begin

p := loader(filename);

cleardevice;

SetFillStyle(1, col);

Bar(0 ,0, getmaxx, getmaxy);

PutImage(0, 0, p^, 0);

GetAnim(0, 0, sh, vs, col, anim);

FreeMem(p);

cleardevice;

end;

procedure initData;

begin

xTank := 250;

yTank := getmaxy - 50 - vsTank;

hTank := 5;

vsTank := 65;

shTank := 65;

dirTank := 1;

xEnemy := 300;

yEnemy := 50;

hEnemy := 1;

EnemyExist := true;

dirEnemy := 2;

shEnemy := 65;

vsEnemy := 70;

xStenaVert := 325;

yStenaVert := 130;

vsStenaVert := 266;

shStenaVert := 66;

shBlock := 71;

vsBlock := 66;

shStenaVertSmall := 66;

vsStenaVertSmall := 217;

hPula := 5;

shPula := 10;

vsPula := 10;

for i := 1 to n do

begin

xPula[i] := getmaxx;

yPula[i] := getmaxy;

PulaLog[i] := false;

end;

shKursor := 126;

vsKursor := 54;

np := 1;

kLifes := 3;

Str(kLifes, kLifesStr);

kEnemies := 0;

Str(kEnemies, kEnemiesStr);

kLevel := 1;

Str(kLevel, kLevelStr);

xLife := getmaxx div 2;

yLife := yStenaVert + vsStenaVert;

end;

procedure initPict;

begin

//tankForward := loader('G:\pascal\game\images\tankForward.bmp');

tankForward := loader('C:\FPC\3.0.4\pascal\game\images\tankForward.bmp');

//tankBack := loader('G:\pascal\game\images\tankBack.bmp');

tankBack := loader('C:\FPC\3.0.4\pascal\game\images\tankBack.bmp');

//tankLeft := loader('G:\pascal\game\images\tankLeft.bmp');

tankLeft := loader('C:\FPC\3.0.4\pascal\game\images\tankLeft.bmp');

//tankRight := loader('G:\pascal\game\images\tankRight.bmp');

tankRight := loader('C:\FPC\3.0.4\pascal\game\images\tankRight.bmp');

//enemyForward := loader('G:\pascal\game\images\enemyForward.bmp');

enemyForward := loader('C:\FPC\3.0.4\pascal\game\images\enemyForward.bmp');

//enemyLeft := loader('G:\pascal\game\images\enemyLeft.bmp');

enemyLeft := loader('C:\FPC\3.0.4\pascal\game\images\enemyLeft.bmp');

//enemyBack := loader('G:\pascal\game\images\enemyBack.bmp');

enemyBack := loader('C:\FPC\3.0.4\pascal\game\images\enemyBack.bmp');

//enemyRight := loader('G:\pascal\game\images\enemyRight.bmp');

enemyRight := loader('C:\FPC\3.0.4\pascal\game\images\enemyRight.bmp');

//stenaVert := loader('G:\pascal\game\images\stenaVert.bmp');

stenaVert := loader('C:\FPC\3.0.4\pascal\game\images\stenaVert.bmp');

stenaVertSmall := loader('C:\FPC\3.0.4\pascal\game\images\stenaVertSmall.bmp');

//stenaVertSmall := loader('G:\pascal\game\images\stenaVertSmall.bmp');

stenaVertSmall2 := loader('C:\FPC\3.0.4\pascal\game\images\stenaVertSmall2.bmp');

//stenaVertSmall2 := loader('G:\pascal\game\images\stenaVertSmall2.bmp');

stenaBlock := loader('C:\FPC\3.0.4\pascal\game\images\stenaBlock.bmp');

//stenaBlock := loader('G:\pascal\game\images\stenaBlock.bmp');

stenaGorizSmall := loader('C:\FPC\3.0.4\pascal\game\images\stenaGorizSmall.bmp');

//stenaGorizSmall := loader('G:\pascal\game\images\stenaGorizSmall.bmp');

menuBg := loader('C:\FPC\3.0.4\pascal\game\images\menuBg2.bmp');

//menuBg := loader('G:\pascal\game\images\menuBg2.bmp');

warningText := loader('C:\FPC\3.0.4\pascal\game\images\warningText.bmp');

//warningText := loader('G:\pascal\game\images\warningText.bmp');

apple := loader('C:\FPC\3.0.4\pascal\game\images\apple.bmp');

explode := loader('C:\FPC\3.0.4\pascal\game\images\explode.bmp');

newAnim(shKursor, vsKursor, 'C:\FPC\3.0.4\pascal\game\images\menuKursor2.bmp', animKursor, black);

//newAnim(shKursor, vsKursor, 'G:\pascal\game\images\menuKursor2.bmp', animKursor, black);

//newAnim(492, 340, 'G:\pascal\game\images\help.bmp', helpText, white);

newAnim(492, 340, 'C:\FPC\3.0.4\pascal\game\images\help.bmp', helpText, white);

//for i := 1 to n do

//newAnim(shPula, vsPula, 'G:\pascal\game\images\pula.bmp', animPula[i], black);

for i := 1 to n do

newAnim(shPula, vsPula, 'C:\FPC\3.0.4\pascal\game\images\pula.bmp', animPula[i], black);

end;

procedure Pausa();

begin

Setcolor(blue);

OutTextXY(150, 500, 'Pausa');

ReadKey();

end;

procedure Help;

begin

cleardevice;

PutImage(0, 0, menuBg^, 1);

putAnim(getmaxx div 2 - 246, getmaxy div 2 - 170, helpText, TransPut);

ReadKey;

end;

procedure Warning;

begin

PutImage(getmaxx div 2 - 250, 200, warningText^, 0);

ReadKey();

end;

procedure Win;

begin

setColor(green);

SetTextStyle(1, 0, 150);

SetLineStyle(1, 0, 7);

outTextXY(getmaxx div 2 - 300, getmaxy div 2 - 100, 'YOU WIN!!!');

setColor(blue);

SetTextStyle(1, 0, 50);

SetLineStyle(1, 0, 5);

outTextXY(getmaxx div 2 - 200, getmaxy div 2 + 70, 'Press ESC to return to menu');

end;

procedure Gameover;

begin

setColor(red);

SetTextStyle(1, 0, 150);

SetLineStyle(1, 0, 7);

outTextXY(getmaxx div 2 - 300, getmaxy div 2 - 100, 'GAME OVER');

setColor(blue);

SetTextStyle(1, 0, 50);

SetLineStyle(1, 0, 5);

outTextXY(getmaxx div 2 - 200, getmaxy div 2 + 70, 'Press ESC to return to menu');

end;

procedure Count;

begin

setcolor(orange);

settextstyle(1, 0, 5);

SetLineStyle(1, 0 ,5);

outtextxy(45, 55, 'Game stats');

setcolor(blue);

settextstyle(1, 0, 4);

outtextxy(45, 120, 'Lifes');

outTextXY(200, 120, kLifesStr);

outtextxy(45, 165, 'Enemies');

outtextxy(200, 168, kEnemiesStr);

outtextxy(45, 210, 'Level');

outTextXY(200, 213, kLevelStr);

if (kEnemies = 10) then

begin

EnemyExist := false;

cleardevice;

Win;

end;

if (kLifes = 0) then

begin

EnemyExist := false;

cleardevice;

Gameover;

end;

end;

procedure Enemy(var xEnemy, yEnemy: integer; hEnemy: integer);

begin

if (EnemyExist = true) then

begin

SetFillStyle(1, black);

UpdateGraph(UpdateOff);

case dirEnemy of

1:

begin

Bar(xEnemy, yEnemy, xEnemy + shEnemy, yEnemy + vsEnemy);

for l := 1 to shEnemy + 1 do

begin

pixelCurEnemy := getpixel(xEnemy + l, yEnemy - 1);

if ((pixelCurEnemy = 90) or (pixelCurEnemy = 140) or (pixelCurEnemy = 7) or (pixelCurEnemy = 43) or

(pixelCurEnemy = 66)) then

begin

xTank := 250;

yTank := getmaxy - 50 - vsTank;

PutImage(xTank, yTank, tankForward^, 1);

end

else if (pixelCurEnemy = 2366701) then

begin

SetFillStyle(1, black);

Bar(xLife, yLife, xLife + 60, yLife + 60);

xLife := 250 + random(getmaxx - 50 - 60);

yLife := getmaxy - 50 - 60;

PutImage(xLife, yLife, apple^, 1);

kEnemies := kEnemies - 1;

Str(kEnemies, kEnemiesStr);

SetFillStyle(1, 25);

Bar(200, 170, 220, 205);

Count;

end;

end;

yEnemy := yEnemy - hEnemy;

if ((yEnemy <= 50) and (xEnemy = 250 + 2)) then

dirEnemy := 2

else if ((yEnemy <= 50) and (xEnemy = getmaxx - 50 - shEnemy)) then

dirEnemy := 4

else if (yEnemy <= 50) then

dirEnemy := 1+ random(5 - 1)

else if ((xEnemy = xStenaVert + 720 + shBlock + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = 250 + 2) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 145 + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 577 + shBlock - 70) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 720 + shBlock - 70) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if (yEnemy > 50) then

PutImage(xEnemy, yEnemy, enemyForward^, 1);

end;

2:

begin

Bar(xEnemy, yEnemy, xEnemy + vsEnemy, yEnemy + shEnemy);

for l := 1 to vsEnemy + 1 do

begin

pixelCurEnemy := getpixel(xEnemy + shEnemy + 1, yEnemy + l);

if ((pixelCurEnemy = 90) or (pixelCurEnemy = 140) or (pixelCurEnemy = 7) or (pixelCurEnemy = 43) or

(pixelCurEnemy = 66)) then

begin

xTank := 250;

yTank := getmaxy - 50 - vsTank;

PutImage(xTank, yTank, tankForward^, 1);

end

else if (pixelCurEnemy = 2366701) then

begin

SetFillStyle(1, black);

Bar(xLife, yLife, xLife + 60, yLife + 60);

xLife := 250;

yLife := 50 + random(getmaxy - 50 - 60);

PutImage(xLife, yLife, apple^, 1);

kEnemies := kEnemies - 1;

Str(kEnemies, kEnemiesStr);

SetFillStyle(1, 25);

Bar(200, 170, 220, 215);

Count;

end;

end;

xEnemy := xEnemy + hEnemy;

if ((xEnemy + vsEnemy = getmaxx - 45) and (yEnemy = 50)) then

dirEnemy := 3

else if ((xEnemy + vsEnemy >= getmaxx - 45) and (yEnemy = getmaxy - 50 - vsEnemy)) then

dirEnemy := 1

else if (xEnemy + vsEnemy >= getmaxx - 45) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + shStenaVert) and (yEnemy = 50)) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 145 + shStenaVert) and (yEnemy = 50)) then dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 577 + shBlock - 70) and (yEnemy = 50)) then dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 720 + shBlock - 70) and (yEnemy = 50)) then dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 720 + shBlock + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 720 + shBlock - 70) and (yEnemy = yStenaVert + vsStenaVert + 75 +

vsStenaVertSmall)) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 577 + shBlock - 70) and (yEnemy = yStenaVert + vsStenaVert + 75 +

vsStenaVertSmall)) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 145 + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert + 75 +

vsStenaVertSmall)) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert + 75 +

vsStenaVertSmall)) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 145 + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 577 + shBlock - 70) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 720 + shBlock - 70) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if (xEnemy + vsEnemy < getmaxx - 50) then

PutImage(xEnemy, yEnemy, enemyRight^, 1);

end;

3:

begin

Bar(xEnemy, yEnemy, xEnemy + shEnemy, yEnemy + vsEnemy);

for l := 1 to shEnemy + 1 do

begin

pixelCurEnemy := getpixel(xEnemy + l, yEnemy + vsEnemy + 1);

if ((pixelCurEnemy = 90) or (pixelCurEnemy = 140) or (pixelCurEnemy = 7) or (pixelCurEnemy = 43) or

(pixelCurEnemy = 66)) then

begin

xTank := 250;

yTank := getmaxy - 50 - vsTank;

PutImage(xTank, yTank, tankForward^, 1);

end

else if (pixelCurEnemy = 2366701) then

begin

SetFillStyle(1, black);

Bar(xLife, yLife, xLife + 60, yLife + 60);

xLife := 250 + random(getmaxx - 50 - 60);

yLife := 50;

PutImage(xLife, yLife, apple^, 1);

kEnemies := kEnemies - 1;

Str(kEnemies, kEnemiesStr);

SetFillStyle(1, 25);

Bar(200, 170, 220, 215);

Count;

end;

end;

yEnemy := yEnemy + hEnemy;

if ((yEnemy + vsEnemy >= getmaxy - 50) and (xEnemy = getmaxx - 50 - shEnemy)) then

dirEnemy := 4

else if ((yEnemy + vsEnemy >= getmaxy - 50) and (xEnemy = 250 + 2)) then dirEnemy := 2

else if (yEnemy + vsEnemy >= getmaxy - 50) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 720 + shBlock + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = 250 + 2) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 145 + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 577 + shBlock - 70) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 720 + shBlock - 70) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if (yEnemy + vsEnemy < getmaxy - 50) then

PutImage(xEnemy, yEnemy, enemyBack^, 1);

end;

4:

begin

Bar(xEnemy, yEnemy, xEnemy + vsEnemy, yEnemy + shEnemy);

for l := 1 to vsEnemy + 1 do

begin

pixelCurEnemy := getpixel(xEnemy - 1, yEnemy + l);

if ((pixelCurEnemy = 90) or (pixelCurEnemy = 140) or (pixelCurEnemy = 7) or (pixelCurEnemy = 43) or

(pixelCurEnemy = 66)) then

begin

xTank := 250;

yTank := getmaxy - 50 - vsTank;

PutImage(xTank, yTank, tankForward^, 1);

end

else if (pixelCurEnemy = 2366701) then

begin

SetFillStyle(1, black);

Bar(xLife, yLife, xLife + 60, yLife + 60);

xLife := getmaxx - 50 - 60;

yLife := 50 + random(getmaxy - 50 - 60);

PutImage(xLife, yLife, apple^, 1);

kEnemies := kEnemies - 1;

Str(kEnemies, kEnemiesStr);

SetFillStyle(1, 25);

Bar(200, 170, 220, 215);

Count;

end;

end;

xEnemy := xEnemy - hEnemy;

if ((xEnemy <= 250 + 2) and (yEnemy = getmaxy - 50 - vsEnemy)) then

dirEnemy := 1

else if ((xEnemy <= 250 + 2) and (yEnemy = 50)) then

dirEnemy := 3

else if (xEnemy <= 250 + 2) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + shStenaVert) and (yEnemy = 50)) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 145 + shStenaVert) and (yEnemy = 50)) then dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 577 + shBlock - 70) and (yEnemy = 50)) then dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 720 + shBlock - 70) and (yEnemy = 50)) then dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 720 + shBlock - 70) and (yEnemy = yStenaVert + vsStenaVert + 75 +

vsStenaVertSmall)) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 577 + shBlock - 70) and (yEnemy = yStenaVert + vsStenaVert + 75 +

vsStenaVertSmall)) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 145 + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert + 75 +

vsStenaVertSmall)) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert + 75 +

vsStenaVertSmall)) then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = 250 + 2) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 145 + shStenaVert) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 577 + shBlock - 70) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if ((xEnemy = xStenaVert + 720 + shBlock - 70) and (yEnemy = yStenaVert + vsStenaVert))

then

dirEnemy := 1 + random(5 - 1)

else if (xEnemy > 250) then

PutImage(xEnemy, yEnemy, enemyLeft^, 1);

end;

end;

UpdateGraph(UpdateNow);

Delay(10);

end;

end;

procedure UprTank(var xTank, yTank: integer; shTank, vsTank, hTank: integer);

var colWay: boolean;

i: integer;

begin

ch := readkey();

case ch of

left :

begin

SetFillStyle(1, black);

Bar(xTank, yTank, xTank + shTank, yTank + vsTank);

if (dirTank <> 4) then

begin

PutImage(xTank, yTank, tankLeft^, 1);

dirTank := 4;

end

else

begin

dirTank := 4;

colWay := false;

for i := 1 to vsTank + 1 do

begin

pixelCur := getpixel(xTank - 1, yTank + i);

if ((pixelCur = 4) or (pixelCur = 91) or (pixelCur = 42) or (pixelCur = 25) or (pixelCur = 15))

then

colWay := true

else if ((pixelCur = 21) or (pixelCur = 22) or (pixelCur = 23) or (pixelCur = 24) or

(pixelCur = 26) or (pixelCur = 27) or (pixelCur = 28) or (pixelCur = 29) or

(pixelCur = 30) or (pixelCur = 18)) then

begin

xTank := getmaxx - 50 - 60;

yTank := 50 + random(getmaxy - 50 - 60);

kLifes := kLifes - 1;

Str(kLifes, kLifesStr);

SetFillStyle(1, 25);

Bar(200, 120, 220, 145);

Count;

end

else if (pixelCur = 2366701) then

begin

SetFillStyle(1, black);

Bar(xLife, yLife, xLife + 60, yLife + 60);

xLife := getmaxx - 50 - 60;

yLife := 50 + random(getmaxy - 50 - 60);

PutImage(xLife, yLife, apple^, 1);

kLifes := kLifes + 1;

Str(kLifes, kLifesStr);

SetFillStyle(1, 25);

Bar(200, 120, 220, 145);

Count;

end;

end;

if (colWay = false) then

xTank := xTank - hTank;

PutImage(xTank, yTank, tankLeft^, 1);

put := 'pTankLeft^';

end;

end;

right:

begin

SetFillStyle(1, black);

Bar(xTank, yTank, xTank + shTank, yTank + vsTank);

if (dirTank <> 2) then

begin

PutImage(xTank, yTank, tankRight^, 1);

dirTank := 2;

end

else

begin

dirTank := 2;

colWay := false;

for i := 1 to vsTank + 1 do

begin

pixelCur := getpixel(xTank + shTank + 1, yTank + i);

if ((pixelCur = 4) or (pixelCur = 91) or (pixelCur = 42) or (pixelCur = 25) or

(pixelCur = 15)) then

colWay := true

else if ((pixelCur = 21) or (pixelCur = 22) or (pixelCur = 23) or (pixelCurPula = 24)

or (pixelCur = 26) or (pixelCur = 27) or (pixelCur = 28) or (pixelCur = 29) or

(pixelCur = 30) or (pixelCur = 18)) then

begin

xTank := 250;

yTank := getmaxy - 50 - vsTank;

kLifes := kLifes - 1;

Str(kLifes, kLifesStr);

SetFillStyle(1, 25);

Bar(200, 120, 220, 145);

Count;

end

else if (pixelCur = 2366701) then

begin

SetFillStyle(1, black);

Bar(xLife, yLife, xLife + 60, yLife + 60);

xLife := 250;

yLife := 50 + random(getmaxy - 50 - 60);

PutImage(xLife, yLife, apple^, 1);

kLifes := kLifes + 1;

Str(kLifes, kLifesStr);

SetFillStyle(1, 25);

Bar(200, 120, 220, 145);

Count;

end;

end;

if (not colWay) then

xTank := xTank + hTank;

PutImage(xTank, yTank, tankRight^, 1);

put := 'pTankRight^';

end;

end;

up:

begin

SetFillStyle(1, black);

Bar(xTank, yTank, xTank + shTank, yTank + vsTank);

if (dirTank <> 1) then

begin

PutImage(xTank, yTank, tankForward^, 1);

dirTank := 1;

end

else

begin

dirTank := 1;

colWay := false;

for i := 1 to shTank + 1 do

begin

pixelCur := getpixel(xTank + i, yTank - 1);

if ((pixelCur = 4) or (pixelCur = 91) or (pixelCur = 42) or (pixelCur = 25) or

(pixelCur = 15)) then

colWay := true

else if ((pixelCur = 21) or (pixelCur = 22) or (pixelCur = 23) or (pixelCur = 24)

or (pixelCur = 26) or (pixelCur = 27) or (pixelCur = 28) or (pixelCur = 29) or

(pixelCur = 30) or (pixelCur = 18)) then

begin

xTank := 250;

yTank := getmaxy - 50 - vsTank;

kLifes := kLifes - 1;

Str(kLifes, kLifesStr);

SetFillStyle(1, 25);

Bar(200, 120, 220, 145);

Count;

end

else if (pixelCur = 2366701) then

begin

SetFillStyle(1, black);

Bar(xLife, yLife, xLife + 60, yLife + 60);

xLife := 250 + random(getmaxx - 50 - 60);

yLife := getmaxy - 50 - 60;

PutImage(xLife, yLife, apple^, 1);

kLifes := kLifes + 1;

Str(kLifes, kLifesStr);

SetFillStyle(1, 25);

Bar(200, 120, 220, 145);

Count;

end;

end;

if (not colWay) then

yTank := yTank - hTank;

PutImage(xTank, yTank, tankForward^, 1);

put := 'pTankForward^';

end;

end;

down:

begin

SetFillStyle(1, black);

Bar(xTank, yTank, xTank + shTank, yTank + vsTank);

if (dirTank <> 3) then

begin

PutImage(xTank, yTank, tankBack^, 1);

dirTank := 3;

end

else

begin

colWay := false;

for i := 1 to shTank + 1 do

begin

pixelCur := getpixel(xTank + i, yTank + vsTank + 1);

if ((pixelCur = 4) or (pixelCur = 91) or (pixelCur = 42) or (pixelCur = 25) or

(pixelCur = 15)) then

colWay := true

else if ((pixelCur = 21) or (pixelCur = 22) or (pixelCur = 23) or

(pixelCur = 24) or (pixelCur = 26) or (pixelCur = 27) or (pixelCur = 28) or (pixelCur = 29)

or (pixelCur = 30) or (pixelCur = 18)) then

begin

xTank := 250;

yTank := getmaxy - 50 - vsTank;

kLifes := kLifes - 1;

Str(kLifes, kLifesStr);

SetFillStyle(1, 25);

Bar(200, 120, 220, 145);

Count;

end

else if (pixelCur = 2366701) then

begin

SetFillStyle(1, black);

Bar(xLife, yLife, xLife + 60, yLife + 60);

xLife := 250 + random(getmaxx - 50 - 60);

yLife := 50;

PutImage(xLife, yLife, apple^, 1);

kLifes := kLifes + 1;

Str(kLifes, kLifesStr);

SetFillStyle(1, 25);

Bar(200, 120, 220, 145);

Count;

end;

end;

if (not colWay) then

yTank := yTank + hTank;

PutImage(xTank, yTank, tankBack^, 1);

put := 'pTankBack^';

end;

end;

end;

end;

procedure PoletPuli(var xPula, yPula: integer; hPula:integer; animPula: AnimatType);

begin

PutAnim(xPula,yPula,animPula,BkgPut);

case dirPula[i] of

1:

begin

yPula := yPula - hPula;

for k := 1 to shPula + 1 do

begin

PixelCurPula := getPixel(xPula + i, yPula - 1);

if ((pixelCurPula = 42) or (pixelCurPula = 91) or (pixelCurPula = 4) or (pixelCurPula = 15)) then

begin

SetColor(black);

SetFillStyle(1, black);

FillEllipse(xPula + 5, yPula, 10, 10);

PutImage(xPula + 5, yPula, explode^, 1);

SetColor(black);

SetFillStyle(1, black);

FillEllipse(xPula + 5, yPula, 10, 10);

PulaLog[i] := false;

xPula := getmaxx;

yPula := getmaxy;

end

else if ((pixelCurPula = 21) or (pixelCurPula = 22) or (pixelCurPula = 23) or (pixelCurPula = 24)

or (pixelCurPula = 26) or (pixelCurPula = 27) or (pixelCurPula = 28)

or (pixelCurPula = 29) or (pixelCurPula = 30) or (pixelCurPula = 18))

then

begin

PulaLog[i] := false;

xPula := getmaxx;

yPula := getmaxy;

SetFillStyle(1, black);

if ((dirEnemy = 2) or (dirEnemy = 4)) then

Bar(xEnemy, yEnemy, xEnemy + vsEnemy, yEnemy + shEnemy)

else if ((dirEnemy = 1) or (dirEnemy = 3)) then

Bar(xEnemy, yEnemy, xEnemy + shEnemy, yEnemy + vsEnemy);

xEnemy := -500;

yEnemy := -500;

xEnemy := xStenaVert + shStenaVert;

yEnemy:= 50;

dirEnemy := 2 + random(4);

kEnemies := kEnemies + 1;

Str(kEnemies, kEnemiesStr);

SetFillStyle(1, 25);

Bar(200, 168, 220, 195);

Count;

end

end;

end;

2:

begin

xPula := xPula + hPula;

for k := 1 to vsPula + 1 do

begin

PixelCurPula := getPixel(xPula + shPula + 1, yPula + i);

if ((pixelCurPula = 42) or (pixelCurPula = 91) or (pixelCurPula = 4) or (pixelCurPula = 15)) then

begin

SetColor(black);

SetFillStyle(1, black);

FillEllipse(xPula + 5, yPula, 10, 10);

PutImage(xPula + 5, yPula, explode^, 1);

SetColor(black);

SetFillStyle(1, black);

FillEllipse(xPula + 5, yPula, 10, 10);

PulaLog[i] := false;

xPula := getmaxx;

yPula := getmaxy;

end

else if ((pixelCurPula = 21) or (pixelCurPula = 22) or (pixelCurPula = 23) or (pixelCurPula = 24)

or (pixelCurPula = 26) or (pixelCurPula = 27) or (pixelCurPula = 28)

or (pixelCurPula = 29) or (pixelCurPula = 30) or (pixelCurPula = 18))

then

begin

PulaLog[i] := false;

xPula := getmaxx;

yPula := getmaxy;

SetFillStyle(1, black);

if ((dirEnemy = 2) or (dirEnemy = 4)) then

Bar(xEnemy, yEnemy, xEnemy + shEnemy, yEnemy + vsEnemy)

else if ((dirEnemy = 1) or (dirEnemy = 3)) then

Bar(xEnemy, yEnemy, xEnemy + vsEnemy, yEnemy + shEnemy);

xEnemy := -500;

yEnemy := -500;

xEnemy := xStenaVert + 145 + shStenaVert;

yEnemy:= 50;

dirEnemy := 2 + random(4);

kEnemies := kEnemies + 1;

Str(kEnemies, kEnemiesStr);

SetFillStyle(1, 25);

Bar(200, 168, 220, 195);

Count;

end;

end;

end;

3:

begin

yPula := yPula + hPula;

for k := 1 to shPula + 1 do

begin

PixelCurPula := getPixel(xPula + i, yPula + vsPula + 1);

if ((pixelCurPula = 42) or (pixelCurPula = 91) or (pixelCurPula = 4) or (pixelCurPula = 15)) then

begin

SetColor(black);

SetFillStyle(1, black);

FillEllipse(xPula + 5, yPula, 10, 10);

PutImage(xPula + 5, yPula, explode^, 1);

SetColor(black);

SetFillStyle(1, black);

FillEllipse(xPula + 5, yPula, 10, 10);

PulaLog[i] := false;

xPula := getmaxx;

yPula := getmaxy;

end

else if ((pixelCurPula = 21) or (pixelCurPula = 22) or (pixelCurPula = 23) or (pixelCurPula = 24)

or (pixelCurPula = 26) or (pixelCurPula = 27) or (pixelCurPula = 28)

or (pixelCurPula = 29) or (pixelCurPula = 30) or (pixelCurPula = 18))

then

begin

SetFillStyle(1, black);

if ((dirEnemy = 2) or (dirEnemy = 4)) then

Bar(xEnemy, yEnemy, xEnemy + vsEnemy, yEnemy + shEnemy)

else if ((dirEnemy = 1) or (dirEnemy = 3)) then

Bar(xEnemy, yEnemy, xEnemy + shEnemy, yEnemy + vsEnemy);

xEnemy := -500;

yEnemy := -500;

xEnemy := xStenaVert + 577 + shBlock - 70;

yEnemy:= 50;

dirEnemy := 2 + random(4);

PulaLog[i] := false;

xPula := getmaxx;

yPula := getmaxy;

kEnemies := kEnemies + 1;

Str(kEnemies, kEnemiesStr);

SetFillStyle(1, 25);

Bar(200, 168, 220, 195);

Count;

end;

end;

end;

4:

begin

xPula := xPula - hPula;

for k := 1 to vsPula + 1 do

begin

PixelCurPula := getPixel(xPula - 1, yPula + i);

if ((pixelCurPula = 42) or (pixelCurPula = 91) or (pixelCurPula = 4) or (pixelCurPula = 15)) then

begin

SetColor(black);

SetFillStyle(1, black);

FillEllipse(xPula + 5, yPula, 10, 10);

PutImage(xPula + 5, yPula, explode^, 1);

SetColor(black);

SetFillStyle(1, black);

FillEllipse(xPula + 5, yPula, 10, 10);

PulaLog[i] := false;

xPula := getmaxx;

yPula := getmaxy;

end

else if ((pixelCurPula = 21) or (pixelCurPula = 22) or (pixelCurPula = 23) or (pixelCurPula = 24)

or (pixelCurPula = 26) or (pixelCurPula = 27) or (pixelCurPula = 28)

or (pixelCurPula = 29) or (pixelCurPula = 30) or (pixelCurPula = 18))

then

begin

SetFillStyle(1, black);

if ((dirEnemy = 2) or (dirEnemy = 4)) then

Bar(xEnemy, yEnemy, xEnemy + shEnemy, yEnemy + vsEnemy)

else if ((dirEnemy = 1) or (dirEnemy = 3)) then

Bar(xEnemy, yEnemy, xEnemy + vsEnemy, yEnemy + shEnemy);

xEnemy := -500;

yEnemy := -500;

xEnemy := xStenaVert + 720 + shBlock - 70;

yEnemy:= 50;

dirEnemy := 2 + random(4);

PulaLog[i] := false;

xPula := getmaxx;

yPula := getmaxy;

kEnemies := kEnemies + 1;

Str(kEnemies, kEnemiesStr);

SetFillStyle(1, 25);

Bar(200, 168, 220, 195);

Count;

end;

end;

end;

end;

if ((yPula <= 50) or (yPula > getmaxy - 50 - vsPula) or (xPula < 250) or (xPula > getmaxx - 45 - shPula)) then

pulaLog[i] := false

else

PutAnim(xPula,yPula,animPula,TransPut);

UpdateGraph(updatenow);

end;

procedure GamePole;

begin

SetFillStyle(1, gray);

Bar(0, 0, getmaxx, getmaxy);

SetFillStyle(1, black);

Bar(250, 50, getmaxx - 47, getmaxy - 50);

PutImage(xStenaVert, yStenaVert, StenaVert^, 1);

PutImage(xStenaVert + 145, yStenaVert, StenaVert^, 1);

PutImage(xStenaVert + 290, yStenaVert, stenaVertSmall^, 1);

PutImage(xStenaVert + 290 + 66, yStenaVert + 120, stenaBlock^, 1);

PutImage(xStenaVert + 290 + 66 + 71, yStenaVert + 120, stenaBlock^, 1);

PutImage(xStenaVert + 66 + 432, yStenaVert, stenaVertSmall^, 1);

PutImage(xStenaVert + 577 + shBlock, yStenaVert, StenaVert^, 1);

PutImage(xStenaVert + 722 + shBlock, yStenaVert, StenaVert^, 1);

PutImage(xStenaVert, yStenaVert + vsStenaVert + 75, stenaVertSmall2^, 1);

PutImage(xStenaVert + 145, yStenaVert + vsStenaVert + 75, stenaVertSmall2^, 1);

PutImage(xStenaVert + 290 + 50, yStenaVert + vsStenaVertSmall + 180 - 50, stenaBlock^, 1);

PutImage(xStenaVert + 290 + 80 + shBlock, yStenaVert + vsStenaVertSmall + 180 - 50, stenaBlock^, 1);

PutImage(xStenaVert + 290 + 50, yStenaVert + vsStenaVertSmall + 180 + 50, stenaBlock^, 1);

PutImage(xStenaVert + 290 + 80 + shBlock, yStenaVert + vsStenaVertSmall + 180 + 50, stenaBlock^, 1);

PutImage(xStenaVert + 577 + shBlock, yStenaVert + vsStenaVert + 75, stenaVertSmall2^, 1);

PutImage(xStenaVert + 722 + shBlock, yStenaVert + vsStenaVert + 75, stenaVertSmall2^, 1);

Count;

end;

procedure Game;

begin

InitData;

cleardevice;

Warning;

GamePole;

PutImage(xEnemy, yEnemy, enemyRight^, 1);

PutImage(xTank, yTank, tankForward^, 1);

PutImage(xLife, yLife, apple^, 1);

Repeat

Enemy(xEnemy, yEnemy, hEnemy);

if KeyPressed then begin

ch := readkey;

if (ch = #0) then

UprTank(xTank, yTank, shTank, vsTank, hTank)

else if (ch = probel) then

for i:= 1 to n do

begin

if (PulaLog[i] = false) then

begin

dirPula[i] := dirTank;

case dirPula[i] of

1:

begin

xPula[i] := xTank + shTank div 2 - 4;

yPula[i] := yTank;

end;

2:

begin

yPula[i] := yTank + vsTank div 2 - 4;

xPula[i] := xTank + shTank;

end;

3:

begin

xPula[i] := xTank + shTank div 2 - 4;

yPula[i] := yTank + vsTank;

end;

4:

begin

yPula[i] := yTank + vsTank div 2 - 4;

xPula[i] := xTank;

end;

end;

PutAnim(xPula[i], yPula[i], animPula[i], TransPut);

PulaLog[i] := true;

break;

end;

end;

end

else if (ch = tab) then

begin

//Setcolor(blue);

//OutTextXY(150, 500, 'Pausa');

Pausa();

end;

for i:= 1 to n do

if (PulaLog[i]) then

PoletPuli(xPula[i], yPula[i], hPula, animPula[i]);

Until ch = esc;

end;

procedure Menu;

begin

UpdateGraph(UpdateOff);

cleardevice;

PutImage(0, 0, menuBg^, 1);

putAnim(450, getmaxy div 2 - 85 + (np - 1) \* 70, animKursor, TransPut);

setcolor(orange);

settextstyle(1, 0, 100);

outtextxy(getmaxx div 2 - 110, getmaxy div 2 - 200, 'Menu');

setcolor(blue);

settextstyle(1, 0, 5);

outtextxy(getmaxx div 2 - 50, getmaxy div 2 - 70, 'Game');

outtextxy(getmaxx div 2 - 50, getmaxy div 2, 'Help');

outtextxy(getmaxx div 2 - 50, getmaxy div 2 + 70, 'Quit');

Setcolor(red);

SetLineStyle(1, 0, 5);

Rectangle(getmaxx div 4, getmaxy div 3 - 80, (getmaxx div 4) \* 3, (getmaxy div 3) \* 2);

UpdateGraph(UpdateOn);

ch := readkey();

if ch = #0 then

begin

putAnim(450, getmaxy div 2 - 85 + (np - 1) \* 70, animKursor, BkgPut);

ch := readkey();

case ch of

up: if np > 1 then np := np - 1;

down: if np < 3 then np := np + 1;

end;

end

else

begin

if ch = enter then

case np of

1: Game;

2: Help;

3: Halt;

end;

end;

end;

BEGIN

clrscr;

Randomize;

SetWindowSize(1300, 800);

gd := d8bit;

gm := mCustom;

InitGraph(gd, gm, 'Tank');

InitData;

InitPict;

Repeat

Menu;

Until 1 = 2;

CloseGraph;

END.