

**课程作品报告（理工类）**

**2020-2021学年 第一学期**

**作品主题： 综合小系统**

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**学院名称： 信息工程学院**

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# 程序总体介绍

基于一学期的汇编语言程序学习，我们结合老师的指导和上课所学知识，做成一个汇编综合的小系统，

系统功能如下：

1. 功能模块选择
2. 进度条展示
3. 图片展示+扬声器音乐播放

(根据按键播放对应音符）

1. 打字小游戏

（根据指定字符打字，统计正确数）

1. 烟花和新年祝福语

（结尾华丽页面展示）

# 大体功能模块

系统功能如下：

1.功能模块选择

2.进度条展示

3.图片展示+扬声器音乐播放

(根据按键播放对应音符）

4.打字小游戏

（根据指定字符打字，统计正确数）

5.烟花和新年祝福语

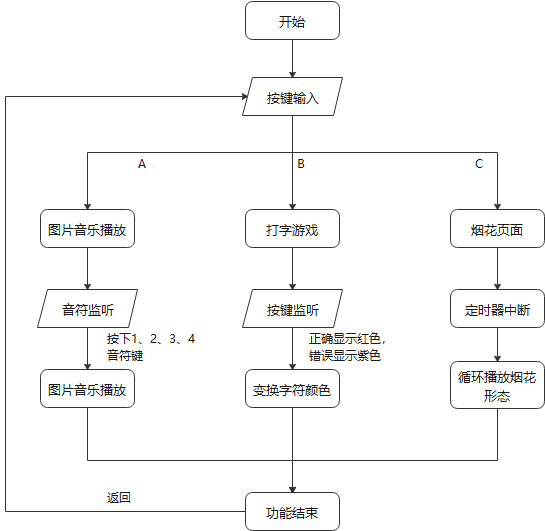
（结尾华丽页面展示）

# 涉及知识

涉及到的技术有：

扬声器、中断（键盘中断、定时器中断）、图形模式、声音模式等

# 流程图



# 功能截图

## 首页面

由于首页实现了对主窗体的绘制，因此这里分别给出“手”的绘制代码，主窗口框架绘制的部分代码：

;点阵字符打印

paintrespectivebutton1:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectivebutton1rowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectivebutton1

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectivebutton1columnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintbutton1rowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[button1+bx],1

;pop ax

jne nextpaintbutton1columnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintbutton1columnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectivebutton1columnloop

nextpaintbutton1rowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectivebutton1rowloop

exitpaintrespectivebutton1:

ret

;基础窗口绘制

paintwindow:

call editpallete

;0xb800为显存的段基址

mov ax,0xa000

mov es,ax

;模拟窗体绘制

;窗口上方

mov word[ds:rectanglestartx],10

mov word[ds:rectanglestarty],20

mov word[ds:rectangleendx],300

mov word[ds:rectangleendy],30

mov byte[ds:pen],2

mov byte[ds:brush],2

call paintfilledrectangle

;窗口下方

mov word[ds:rectanglestartx],10

mov word[ds:rectanglestarty],30

mov word[ds:rectangleendx],300

mov word[ds:rectangleendy],180

call paintrectangle

;滑轮外轮廓

mov word[ds:rectanglestartx],290

mov word[ds:rectanglestarty],30

mov word[ds:rectangleendx],300

mov word[ds:rectangleendy],180

call paintrectangle

;滑轮

mov word[ds:rectanglestartx],291

mov word[ds:rectanglestarty],80

mov word[ds:rectangleendx],299

mov word[ds:rectangleendy],120

mov byte[ds:pen],1

mov byte[ds:brush],1

call paintfilledrectangle

;关闭按钮

mov word[ds:rectanglestartx],280

mov word[ds:rectanglestarty],20

mov word[ds:rectangleendx],300

mov word[ds:rectangleendy],30

mov byte[ds:pen],3

mov byte[ds:brush],3

call paintfilledrectangle

paintwindowexit:

ret



## 进度条

按下”a”、”b”、和”c”的时候模拟界面的加载过程，引入进度条的绘制。由于进度条需要有不同的形态，同时需要通过延时来完成，这里给出部分绘制和动态加载绘制的代码：

;进度条外轮廓

paintprogressoutline:

mov word[ds:rectanglestartx],20

mov word[ds:rectanglestarty],95

mov word[ds:rectangleendx],281

mov word[ds:rectangleendy],115

mov byte[ds:pen],2

call paintrectangle

paintprogressoutlineexit:

ret

;进度条内部填充

paintprogress1:

mov word[ds:rectanglestartx],21

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],39

mov word[ds:rectangleendy],114

mov byte[ds:pen],11

mov byte[ds:brush],11

call paintfilledrectangle

paintprogress1exit:

ret

paintprogress2:

mov word[ds:rectanglestartx],58

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],76

mov word[ds:rectangleendy],114

mov byte[ds:pen],12

mov byte[ds:brush],12

call paintfilledrectangle

paintprogress2exit:

Ret

paintprogress2:

mov word[ds:rectanglestartx],58

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],76

mov word[ds:rectangleendy],114

mov byte[ds:pen],12

mov byte[ds:brush],12

call paintfilledrectangle

paintprogress2exit:

ret

paintprogress3:

mov word[ds:rectanglestartx],95

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],113

mov word[ds:rectangleendy],114

mov byte[ds:pen],13

mov byte[ds:brush],13

call paintfilledrectangle

paintprogress3exit:

ret

paintprogress4:

mov word[ds:rectanglestartx],132

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],150

mov word[ds:rectangleendy],114

mov byte[ds:pen],14

mov byte[ds:brush],14

call paintfilledrectangle

paintprogress4exit:

ret

paintprogress5:

mov word[ds:rectanglestartx],169

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],187

mov word[ds:rectangleendy],114

mov byte[ds:pen],15

mov byte[ds:brush],15

call paintfilledrectangle

paintprogress5exit:

ret

paintprogress6:

mov word[ds:rectanglestartx],206

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],224

mov word[ds:rectangleendy],114

mov byte[ds:pen],16

mov byte[ds:brush],16

call paintfilledrectangle

paintprogress6exit:

ret

paintprogress7:

mov word[ds:rectanglestartx],243

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],261

mov word[ds:rectangleendy],114

mov byte[ds:pen],17

mov byte[ds:brush],17

call paintfilledrectangle

paintprogress7exit:

ret

;总进度条封装

painttotalprogress:

call paintprogressoutline

call paintprogress1

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call paintprogress2

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call paintprogress3

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call paintprogress4

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call paintprogress5

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call paintprogress6

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call paintprogress7

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

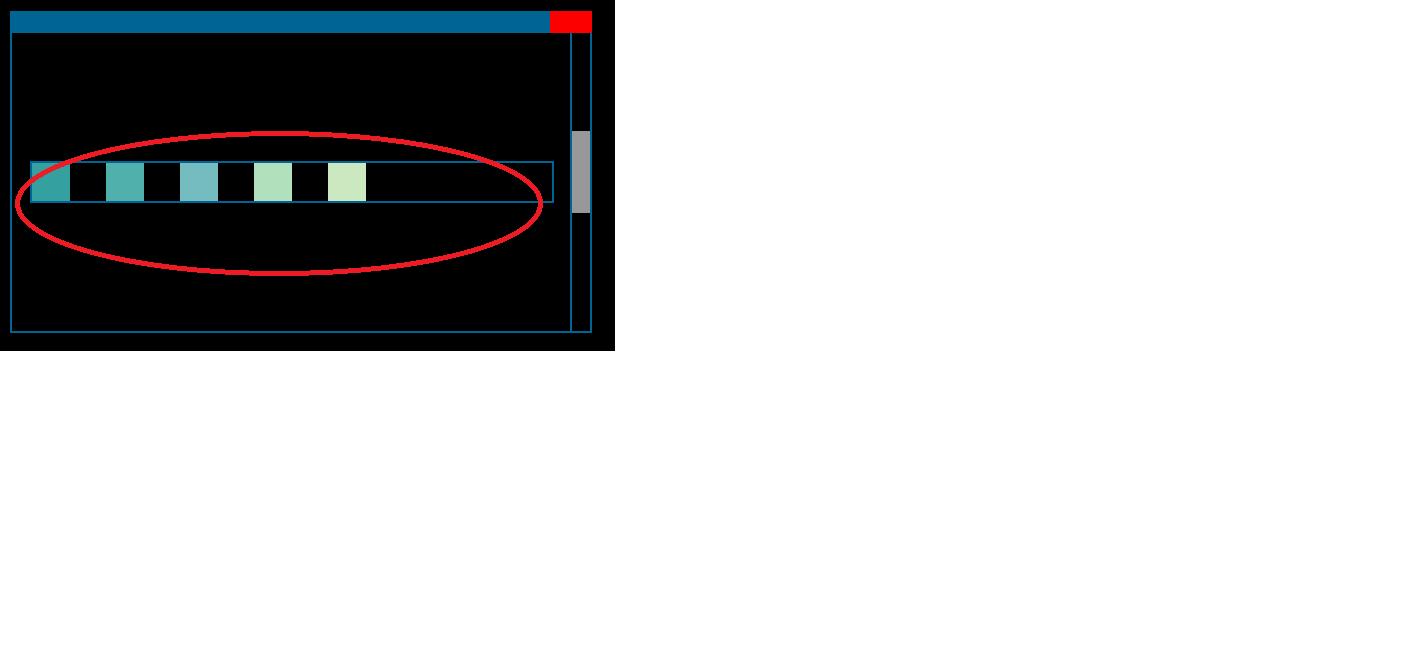
painttotalprogressexit:

ret

### 5.2.1进度条一



### **5.2.2进度条二**



## 歌曲页面

通过键盘a进入，等待进度条加载完后显示音乐键盘界面，这里的安卓机器人和扬声器图标绘制和前面的“手”绘制点阵代码类似，不予详细给出，只给出大致调用部分代码：

paintallandroid:

call initandroid1

call paintrespectiveandroid1

call initandroid21

call paintrespectiveandroid2

call initandroid22

call paintrespectiveandroid2

call initandroid23

call paintrespectiveandroid2

call initandroid24

call paintrespectiveandroid2

call initandroid25

call paintrespectiveandroid2

call initandroid3

call paintrespectiveandroid3

call initandroid4

call paintrespectiveandroid4

call initandroid5

call paintrespectiveandroid5

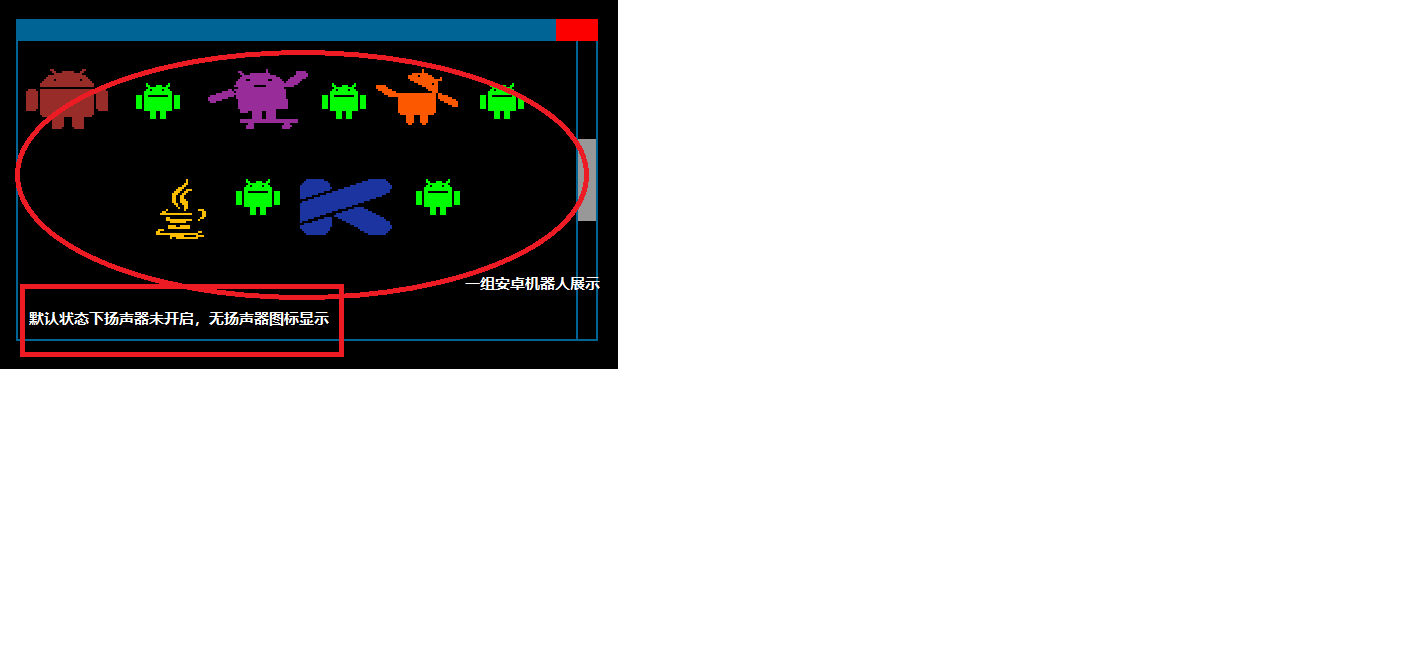
call initandroid6

call paintrespectiveandroid6

paintallandroidexit:

ret

### 5.3.1 扬声器



### 5.3.2 开启扬声器

扬声器的开启和关闭通过大小写键是否按下来实现，然后改变信号量的标记为0还是1，最后再判断是否在屏幕上显示对应的喇叭图标：

cmp byte[ds:musicmutex],1

jne printcharactermode

judgeCaptilizeDown:

cmp al,0x3A

jne judgeCaptilizeUp

judgeCaptilizeUp:

cmp al,0xBA

;如果大小切换键的按下和释放都不满足，则输入正常的键盘值

jne key\_output

;确定之前状态的大小键盘是开启还是关闭

cmp byte[ds:isCaptilize],1

jne openCaptilization

closeCaptilization:

;之前的大写模式开启，现在关闭大写

mov byte[ds:isCaptilize],0

call clearwindowcontent

jmp key\_output

openCaptilization:

;之前的大写模式没开启，现在开启大写

mov byte[ds:isCaptilize],1

jmp key\_output

按下1，2，3，4，5，6，7分别对应不同的安卓机器人打印，同时扬声器发出不同的频率的声音，这里以按下”1”为例给出代码：

;声音播放输出区

captilize\_output:

;先清空上一次的内容

;call clearwindowcontent

;1

cmp al,0x02

jne nexts2

mov word[ds:pianooutputkey],0

call initandroid1

call paintrespectiveandroid1

call initandroid21

call paintrespectiveandroid2

call initvoice

call paintrespectivevoice

jmp key\_op

......

k1:

mov dx,0x20

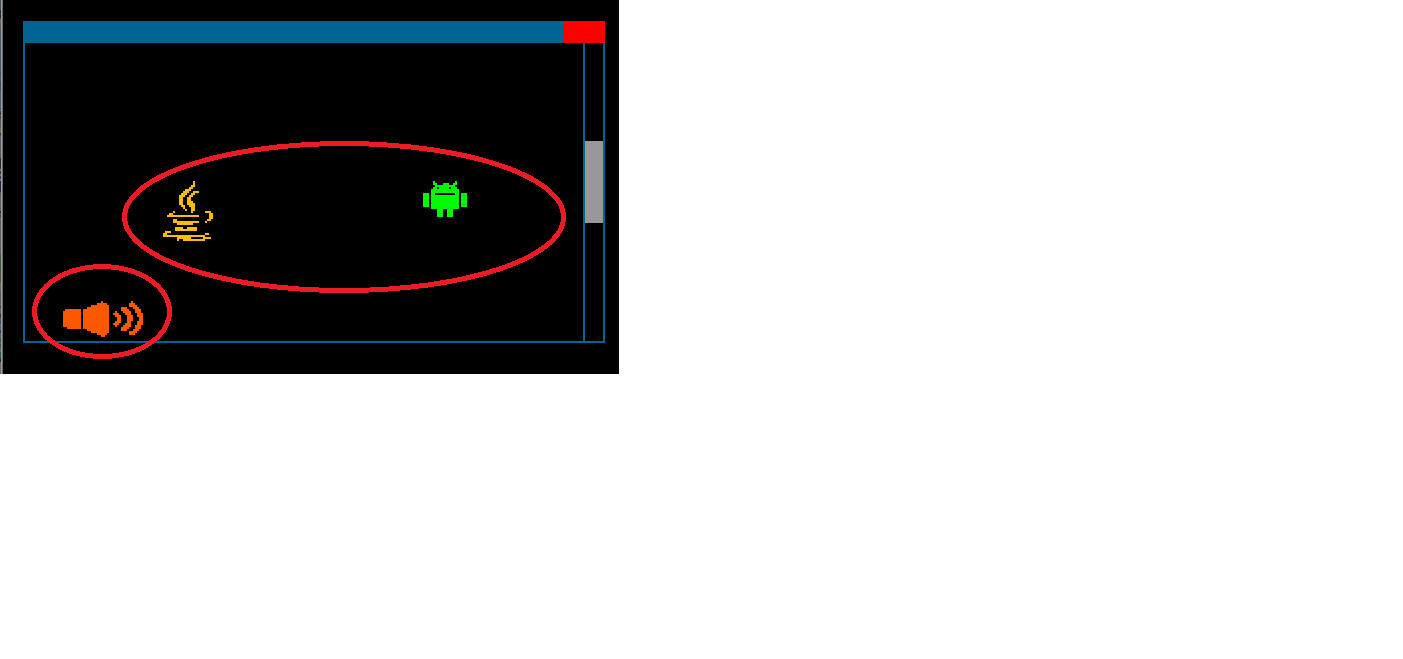
mov al,0x61

;键盘中断结束，让后面的中断进入

out dx,al

iret





### 5.3.3 音乐结束

松开1，2，3，4，5，6，7七个键中的一个后，安卓机器人会消失，扬声器停止发声。这里主要通过延时功能和清屏功能实现，代码如下：

key\_op:

call frequencysetting

call timerfrequencysetting

;打开扬声器并延时一段时间后关闭

call soundclose

call soundopen

call sounddelay

call soundclose;图像延迟消失

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call clearwindowcontent

call initvoice

call paintrespectivevoice

jmp next\_output

clearwindowcontent:

mov word[ds:clearstartx],11

mov word[ds:clearstarty],31

mov word[ds:clearendx],289

mov word[ds:clearendy],179

call clearregioncontent

clearwindowcontentexit:

Ret

clearregioncontent:

;窗口下方

mov ax,[ds:clearstartx]

mov word[ds:rectanglestartx],ax

mov ax,[ds:clearstarty]

mov word[ds:rectanglestarty],ax

mov ax,[ds:clearendx]

mov word[ds:rectangleendx],ax

mov ax,[ds:clearendy]

mov word[ds:rectangleendy],ax

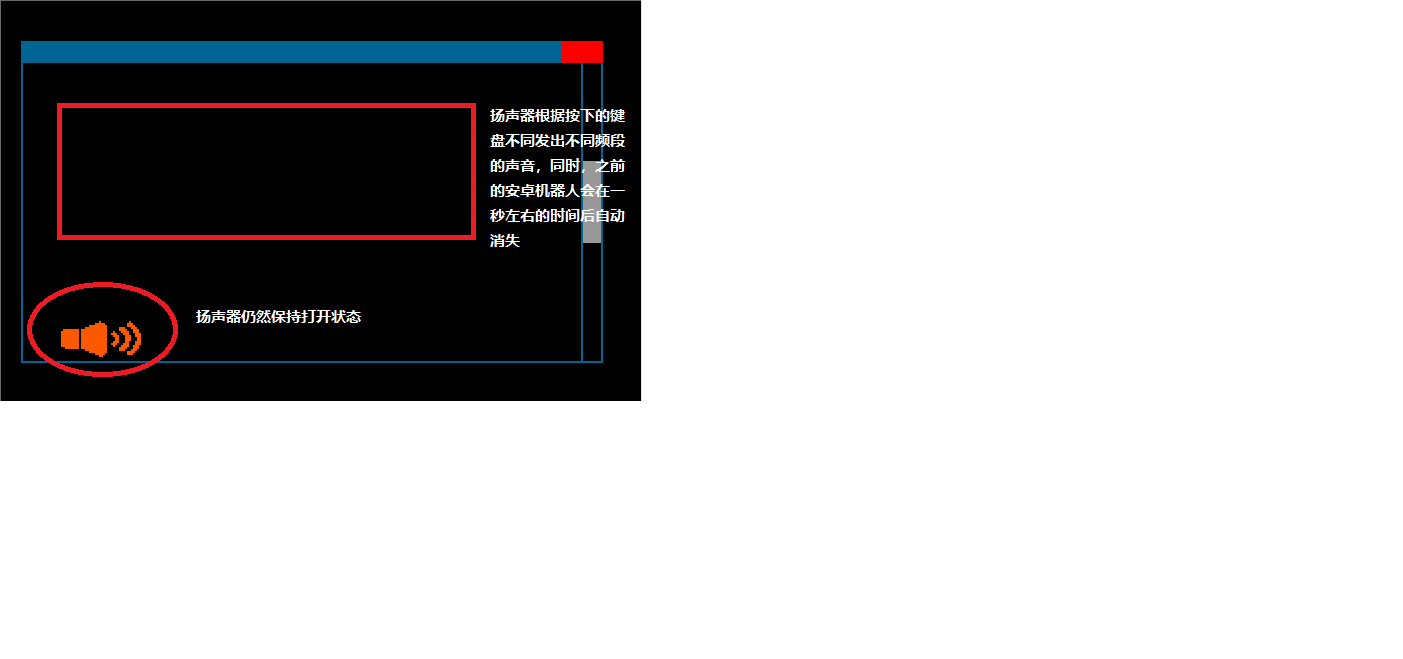
mov byte[ds:pen],0

mov byte[ds:brush],0

call paintfilledrectangle

clearregioncontentexit:

ret





## 5.4 打字游戏页面

### 5.4.1 显示待打字的字母

call prtzimubycolorandnum

prtprtzimubycolorandnum:

mov ax, word[ds:zimuchar+bx]

;取char字数组 0--a 1--b 2---c 3--d

mov di,word[ds:zimucolor+bx];取color颜色数组

mov word[ds:selectcolor],di ;赋值到selectcolor里面

mov word[ds:zumucharindex],ax ;赋值到index 输出 A B C D

mov word[ds:zimuindex],cx ;起点位置

call jisuanindex;计算下标

call jisuanindex2;

call prthanzi ;画一个

add si,2 ;数组指针+2

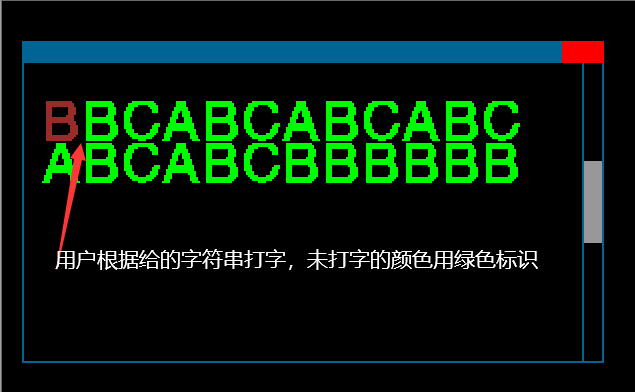
mov bx,si

add cx,1;计数器+1

cmp cx,24;比较次数 ----数组长度

jz end4

jmp prtprtzimubycolorandnum



### 5.4.2 用户开始打字

;比较和标准答案是不是相等 cx标准答案 presszimu 用户按下的键

mov cx, word[ds:biaozhunzimu]

cmp cx, word[ds:presszimu]

jnz end5;如果不相等 直接跳到下一个键盘中断

;如果相等 改变颜色为Red

;重新染色 染橘色

call drawzimucolor1

;计数器加1

mov bx,word[ds:persontime]

add bx,1

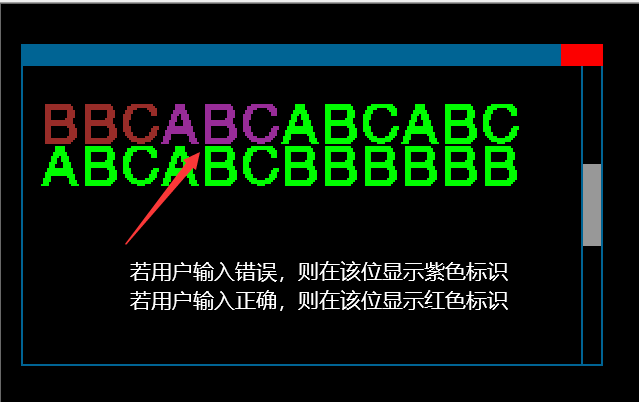
mov word[ds:persontime],bx

jmp end6

end5:

;重新染色 染白色

call drawzimucolor2



### 5.4.2 打字完毕

;在进入程序前先判断 是否已经结束了

mov cx,word [ds:zimucharsize]

add cx,cx

mov bx,word[ds:personindex]

cmp bx,cx

jae x14

jmp x15

x14:

mov word[ds:daziendflag],1

call prtresult ;打印成绩

jmp k1

prtresult:

;进入图形页面

call picturemode

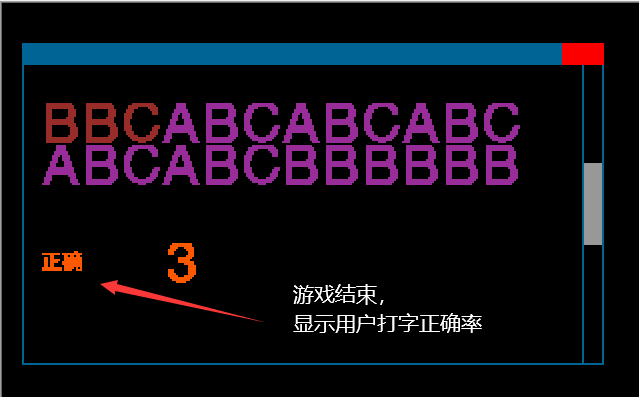
;画字

call prtagain

call prtzheng1

call prtnumber

ret



## 烟花页面

在首页选择按下”c“键后进入新年祝福和烟花模块，其中一共有三种形态，通过逐帧动画的形式循环展现。由于烟花点阵和祝福语点阵的绘制与首页的”手“基本类似，故这里主要给出不同形态烟花和祝福语展示的代码部分：

happynewyearround:

mov dword[ds:fireworkoutputcycle],0x4ffff

happynewyearroundloop:

cmp dword[ds:fireworkoutputcycle],0

je happynewyearroundexit

;call timerinit

;-----------------------------阶段1

call initfirework11

call paintrespectivefirework1

call initfirework12

call paintrespectivefirework1

call initfirework13

call paintrespectivefirework1

call initfirework14

call paintrespectivefirework1

call inithappynewyear1

call paintrespectivehappynewyear

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call clearwindowcontent

;-----------------------------阶段2

call initfirework21

call paintrespectivefirework2

call initfirework22

call paintrespectivefirework2

call initfirework23

call paintrespectivefirework2

call initfirework24

call paintrespectivefirework2

call inithappynewyear2

call paintrespectivehappynewyear

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call clearwindowcontent

;------------------------------阶段3

call initfirework31

call paintrespectivefirework3

call initfirework32

call paintrespectivefirework3

call initfirework33

call paintrespectivefirework3

call initfirework34

call paintrespectivefirework3

call inithappynewyear3

call paintrespectivehappynewyear

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call clearwindowcontent

dec dword[ds:fireworkoutputcycle]

jmp happynewyearroundloop

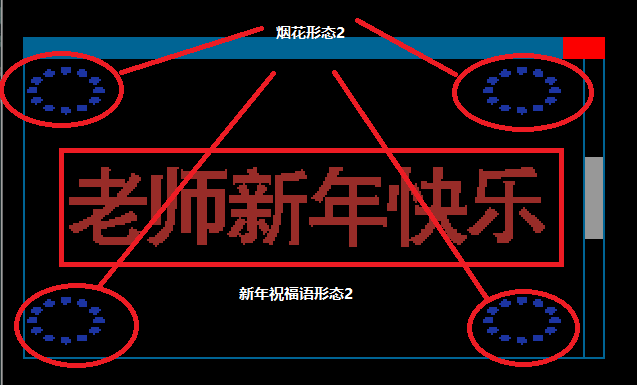
happynewyearroundexit:

ret

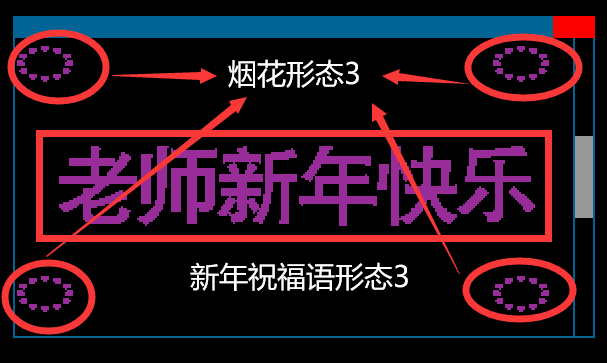
### 5.5.1 烟花轮播（形态1）



### 5.5.2 烟花形态2



### 5.5.2 烟花形态3



# 小结

通过这次的实验，我们对汇编语言的编程技术有了较好程度的巩固和掌握，理解了如何通过中断系统来实现对应的功能，了解到中断功能的强大，在老师的上课指导和课后总结下，我们掌握了中断、存储等关键概念。同时，我们也在逻辑分析、功能分析上有了很大的进步。

# 源代码

org 0x8400

;CS,DS,ES,SS默认的段基址为0000

;利用jmp指令跳过段数据的定义部分

jmp start

;默认数据段定义

[SECTION data]

;-------------------------------基础颜色图形模块变量---------------------------------

;

;其中0号默认为背景色,1号默认为画笔的颜色

;由于机器中存放存在移位现象，故需要将二进制数值的最后两位变成最高两位

pallete:

db 0,0,0,0

db 1,166,166,166

db 2,0,89,229 ;蓝色

db 3,255,0,0

db 4,242,240,228

db 5,0,255,0 ;鲜绿色

db 6,230,75,10 ;朱红色

db 7,230,75,230 ;紫色

db 8,255,150,0 ;橙色

db 9,255,175,0 ;米黄色

db 10,135,77,40 ;米黄色

db 11,141,40,40 ;渐变条专用颜色区

db 12,148,44,235 ;渐变条专用颜色区

db 13,93,47,48 ;渐变条专用颜色区

db 14,236,56,239 ;渐变条专用颜色区

db 15,243,250,240 ;渐变条专用颜色区

db 16,182,124,110 ;渐变条专用颜色区

db 17,59,125,237 ;渐变条专用颜色区

;画笔

pen db 1

brush db 1

;循环参数(公用),初始情况总循环数为颜色集的数

cyclecount dw 5

totalcyclecount dw 0

;点参数

pointx dw 2

pointy dw 2

;线条参数(水平竖直版)

linex dw 3

liney dw 10

linelength dw 20

;方块参数

rectanglestartx dw 10

rectanglestarty dw 0

rectangleendx dw 130

rectangleendy dw 20

;-----------------------------------------任务信号量------------------------------------

mainmutex db 1

progressmutex db 0

musicmutex db 0

printcharactermutex db 0

happynewyearmutex db 0

;-----------------------------------------点阵部分--------------------------------------

;安卓功能界面

;字符点阵

;字符宽,高

charLength dw 42

charHeight dw 28

;字符点阵输出起始坐标

charStartX dw 0

charStartY dw 0

;字符点阵遍历辅助变量

charX dw 0

charY dw 0

charColumnIndex dw 0

charRowIndex dw 0

;在字符点阵中总的偏移量

charIndex dw 0

;单个矩阵的数值暂存变量

charactertempbyte dw 0

;安卓图形1字符点阵数据

android1:

db 0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,1,1,1,1,1,1,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,1,1,1,1,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,1,1,1,1,0

db 1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1

db 1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1

db 1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1

db 1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1

db 1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1

db 1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1

db 1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1

db 1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1

db 1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1

db 1,1,1,1,1,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,1,1,1,1,1

db 0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

;字符点阵数据

android2:

db 0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0

db 0,0,0,0,0,1,1,0,0,0,1,1,1,0,0,1,1,0,0,0,0,0,0,0

db 0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0

db 0,0,0,0,0,1,1,0,1,1,1,1,1,0,1,1,1,0,0,0,0,0,0,0

db 0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0

db 1,1,1,0,1,1,0,0,0,0,0,0,0,0,0,0,1,1,0,1,1,1,0,0

db 1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,0,0

db 1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,0,0

db 1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,0,0

db 1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,0,0

db 1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,0,0

db 1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,0,0

db 0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,0,0,1,1,1,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,0,0,1,1,1,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,0,0,1,1,1,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,0,0,1,1,1,0,0,0,0,0,0,0,0,0

android3:

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,9

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,1,1,1,1,1,1,1,1,1,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 1,1,1,1,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,1,1,1,1,1,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0

android4:

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,1,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,0,1,1,0,0,0,0,0,0,0,0,0,0,0

db 1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0

db 1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0

db 0,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,1,1,1,1,1,1,1,1,0,0

db 0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,1,0

db 0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,1,1,1,1,1,0

db 0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,0

db 0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

android5:

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,1,1,1,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,1,1,1,0,0,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,1,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,1,1,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,1,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,1,0,0,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,1,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,1,1,1,0,0

db 0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,1,1,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0

db 0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0

db 0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,1,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,1,1,1,1,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0

db 0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,0,1,1,1,1,0,0

db 0,0,0,0,0,0,0,1,0,0,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0

android6:

db 0,0,0,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,0,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 1,1,1,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0

db 1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0

db 1,1,1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0

db 1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0

db 1,1,1,1,1,1,1,0,0,0,0,0,1,1,1,1,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0

db 1,1,1,1,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0

db 1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0

db 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0

db 0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,0,0,0,0,0

;---------------------------------烟花模块

fireworkoutputcycle dd 0Xffffff

;-------------------------------------------烟花1--------------------------------------

firework1:

db 0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,1,1,1,0,1,1,1,1,0,1,1,1,0,0,0,0,0

db 0,0,0,0,0,1,1,1,0,0,1,1,0,0,1,1,1,0,0,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1

db 0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0

db 0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0

db 0,0,1,1,0,1,1,1,0,0,0,0,0,0,1,1,1,0,1,1,0,0

db 0,0,0,0,0,1,1,1,0,0,1,1,0,0,1,1,1,0,0,0,0,0

db 0,0,0,0,0,0,1,0,0,1,1,1,1,0,0,1,0,0,0,0,0,0

firework2:

db 0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,1,1,1,1,0,0,1,1,1,1,0,0,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,0,0,1,1,1,1,0,0,0,1,1,0,0,0,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0

db 0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0

db 0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0

db 0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0

db 1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1

db 1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1

db 1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0

db 0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0

db 0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,0,0,1,1,1,1,0,0,1,1,1,1,0,0,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,0,0,0,1,1,1,1,0,0,0,1,1,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0

firework3:

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,1,1,1,1,1,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0,1,1,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0

db 0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0

db 0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0

db 0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0

db 1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0

db 1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0

db 0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0

db 0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0

db 0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,1,1,1,1,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

;-------------------------------------字符打印区

zimua db 0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0 ;-------A

db 0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,0,0

db 0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,0,0

db 0,0,0,0,0,1,1,1,1,0,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,0,1,1,1,0,0,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,0,1,1,1,0,0,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,1,1,1,1,0,0,0,1,1,1,1,0,0,0,0,0

db 0,0,0,0,1,1,1,0,0,0,0,1,1,1,1,0,0,0,0,0

db 0,0,0,0,1,1,1,0,0,0,0,1,1,1,1,0,0,0,0,0

db 0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,1,1,1,1,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0

db 0,1,1,1,1,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0

db 0,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0

db 1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0

;---------------------------------------B

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0

;--------------------------------------C

db 0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 0,0,0,1,1,1,1,1,0,0,0,0,0,1,1,1,1,1,0,0

db 0,0,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0

db 0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,1,1,1,0,0

db 0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0

db 0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0

db 0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0

db 0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0

db 0,0,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0

db 0,0,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0

db 0,0,0,1,1,1,1,1,0,0,0,0,1,1,1,1,1,0,0,0

db 0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0

;--------------------------------------D

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0

zheng1 db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0

db 1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1

db 0,0,0,0,1,1,0,0,0,0,0,1,1,0,1,1,0,1,1,0

db 0,1,1,0,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1,1

db 0,1,1,0,1,1,1,1,1,0,0,1,1,1,1,1,1,1,1,1

db 0,1,1,0,1,1,1,1,0,0,1,1,1,1,1,1,1,1,1,1

db 0,1,1,0,1,1,0,0,0,0,1,1,1,1,1,1,1,1,1,1

db 0,1,1,0,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1,1

db 1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,0,1,0,1

db 1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,0,0,1,1,1

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

zheng2 db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,1,1,0,0,1,1,0,0,0,1,1,1,1,1,1,1,1,0

db 1,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,1,1,0

db 1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,0

db 0,1,1,1,1,1,0,1,1,0,0,0,1,1,1,1,1,1,0,0

db 1,1,1,1,1,1,1,1,1,0,0,1,1,1,1,1,1,1,1,0

db 0,1,1,1,0,1,1,1,0,0,0,1,1,1,1,1,1,1,1,0

db 0,0,1,1,1,0,1,1,0,0,1,1,1,1,1,1,1,1,1,1

db 1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1

db 1,1,0,0,1,1,0,1,1,1,0,0,0,0,1,1,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

zi3 db 0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0

db 0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0

db 0,0,0,0,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,0

db 0,0,0,1,1,1,1,0,0,0,0,0,1,1,1,1,0,0,0,0

db 0,0,0,1,1,1,0,0,0,0,0,0,0,1,1,1,0,0,0,0

db 0,0,0,1,1,1,0,0,0,0,0,0,0,1,1,1,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,0,1,1,1,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,0,1,1,1,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,0,1,1,1,1,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,0

db 0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0

db 0,0,0,0,0,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0

;---------------------------------打印字符变量--------------------------------------

zimufirstelocation dw 0 ;要输出字符的具体位置

firstlocation dw 16020 ;初始偏移量 50\*320+20

zimucharindexnum dw 0 ;计算好的字母在整个字符数组里面的起点

zumucharindex dw 0 ;字母和数字的映射 0---a 1----b

zimuindex dw 0 ;所在的位置

zimufirstelocation1 dw 1220

personindex dw 0 ;人为操作的下标指针

persontime dw 0 ;人操作的次数

color dw 2

zimucharsize dw 24 ;字符串大小

zimuchar dw 1,1,2,0,1,2,0,1,2,0,1,2,0,1,2,0,1,2,1,1,1,1,1,1 ;字符串

zimucolor dw 5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5;字符串颜色

selectcolor dw 0

presszimu dw 0 ;当前按下的字母

biaozhunzimu dw 0 ;标准答案的字符

presszimuindex dw 0 ;当前按下的字母映射的标号

daziendflag dw 0 ;打印结束标志

zheng1questartlocation dw 38420 ;120\*320+20 =38420

zheng2questartlocation dw 38440 ;

numlocation dw 38480

;列偏移 行偏移 数组偏移

liez dw 0

hangz dw 0

shuzuz dw 0

colorz dw 0

;-------------------------------------烟花任务区

;形态1

fireworkmutex db 1

;-------------------------------------新年快乐字符打印

happynewyear:

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0

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db 0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,0,1,1,1,1,1,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,1,1,1,1,0,0,1,1,1,1,0,0,1,1,1,1,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,0,1,1,1,1,1,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,1,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,1,1,1,1,0,0,1,1,1,1,0,0,0,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

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db 0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,1,1,1,1,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,0,0,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0

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db 0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,1,1,1,1,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,1,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,1,1,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,1,1,1,1,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,1,1,1,1,0,1,1,1,1,1,0,1,1,1,0,0,0,0,1,1,1,1,0,0,0,0,0,1,1,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0

db 0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,1,1,1,1,1,0,0,0,0,1,1,1,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,1,1,1,1,0,0,0,0,0,1,1,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,1,1,1,0,0,0

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;-------------------------------------首页选择点阵

button1:

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,0,0,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0

db 0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1

db 0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1

db 1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1

db 1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1

db 1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0

db 1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0

db 1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0

db 1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0

db 1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0

db 1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0

db 0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0

db 0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0

db 0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0

db 0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0

db 0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

button2:

db 0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0

db 0,0,1,1,1,1,1,1,1,1,1,1,1,0,0,0

db 1,1,1,1,0,0,0,0,0,0,0,1,1,1,0,0

db 1,1,0,0,0,0,0,0,0,0,0,0,1,1,0,0

db 1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,0

db 1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,0

db 1,1,1,1,0,1,1,0,1,0,1,1,1,1,1,0

db 1,1,1,1,0,1,1,1,1,0,1,1,1,1,1,1

db 1,1,1,1,0,1,1,1,1,0,1,1,1,1,1,1

db 1,1,1,1,0,1,1,1,1,0,1,1,1,1,1,1

db 0,0,1,1,1,1,1,1,1,0,1,1,0,0,0,0

db 0,0,0,0,0,1,1,1,1,0,1,1,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0

db 0,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0

button3:

db 0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,1,1,1,0,0

db 0,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,0

db 0,0,0,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,1,1

db 0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1

db 1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,1,1

db 1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,1

db 0,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,1,1,1,0,0

db 0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0

db 0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0

;----------------------------------------扬声器点阵

voice:

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,1,1,1,0,0,0,1,1,1,0,0

db 0,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,1,1,1,1,0,0,0,1,1,1,0

db 1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,1,0,0,0,1,1,1,1,0,0,1,1,1,0

db 1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,1,1,1,0,0,0,1,1,1,0,0,0,1,1,1

db 1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,1,1,1,0,0,0,1,1,1,0,0,1,1,1

db 1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,1,1,0,0,0,1,1,1,0,0,0,1,1

db 1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,1,1,0,0,0,1,1,1,0,0,0,1,1

db 1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,1,1,1,0,0,0,1,1,0,0,0,1,1,1

db 1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,1,1,1,0,0,0,1,1,1,0,0,0,1,1,1

db 1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,1,0,0,0,1,1,1,1,0,0,1,1,1,0

db 0,0,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,1,1,1,1,0,0,0,1,1,1,0

db 0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,1,1,1,0,0,0,1,1,1,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,1,1,1,1,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0

db 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

;-----------------------------------------扬声器部分------------------------------------

;扬声器控制区

;键盘偏移量

pianooutputkey dw 0

;键盘数组区

pianokey:

dw 261

dw 293

dw 329

dw 349

dw 392

dw 440

dw 493

soundoutputcycle dd 0Xffffff

;键盘控制区

;是否大写/声音是否打开

isCaptilize db 0

;-----------------------------------------定时器中断部分--------------------------------

;---------------------------------进度条模块

;----------------------------------------清屏模块---------------------------------------

clearstartx dw 0

clearstarty dw 0

clearendx dw 0

clearendy dw 0

;-----------------------------------------主函数部分------------------------------------

;主函数入口地址

start:

;进入13号320\*200 256色的图形模式

call picturemode

call editpallete

;sti:IF标志位置1,clf:IF标志位置0--用来置于可屏蔽中断

sti

;0xb800为显存的段基址

mov ax,0xa000

mov es,ax

;主界面初始化

call paintmainwindow

mov ax,0

mov ds,ax

cli

mov bx,0

call keyinit

;call timerinit

sti

call frequencysetting

call timerfrequencysetting

call soundclose

x: jmp $

;--------------------------------------信号量部分--------------------------------------

timermutex db 0

keyboardmutex db 1

;--------------------------------------图形模式画笔和基本图形函数----------------------

;

;

;编制自定义颜色

editcolor:

;设置颜色号接口0x3c8,RGB分量接口0x3c9

mov dx,0x3c8

mov al,[si]

out dx,al

mov dx,0x3c9

mov al,[si+1]

out dx,al

mov al,[si+2]

out dx,al

mov al,[si+3]

out dx,al

add si,4

ret

;ax放起始纵坐标,cx放起始横坐标,dl放画笔色号

;

;绘制一个点

paintpoint:

mov ax,[ds:pointy]

mov cx,[ds:pointx]

mov dl,[ds:pen]

mov si,320

mul si

add ax,cx

mov bx,ax

mov byte [es:bx], dl

exitpaintpoint:

ret

;ax放起始纵坐标,cx放起始横坐标,bx放长度

;最终si放置起始位置

;绘制一条横线

painthorizontalline:

mov ax,[ds:liney]

mov cx,[ds:linex]

mov bx,[ds:linelength]

mov si,320

mul si

add ax,cx

;结果放置，起始在si中，dx为总长度,变化偏移量在bx中

mov dx,bx

mov si,ax

mov bx,0

;画笔色号引入cl

mov cl,[ds:pen]

looph1:

cmp bx,dx

ja exitpainthl

mov byte [es:bx+si], cl

inc bx

jmp looph1

exitpainthl:

ret

;ax放起始纵坐标,cx放起始横坐标,bx放长度

;最终si放置起始位置

;绘制一条竖线

paintverticalline:

mov ax,[ds:liney]

mov cx,[ds:linex]

mov bx,[ds:linelength]

mov si,320

mul si

add ax,cx

;结果放置:起始在si中，dx为总长度,变化偏移量在bx中,ax此时暂存变化次数

mov dx,bx

mov si,ax

mov bx,0

mov ax,0

;画笔色号引入cl

mov cl,[ds:pen]

loopvl:

cmp ax,dx

jae exitpaintvl

mov byte [es:bx+si], cl

add bx,320

inc ax

jmp loopvl

exitpaintvl:

ret

;ax放起始横坐标,cx放起始纵坐标

;最终si放置起始位置

;绘制一个方块

paintrectangle:

;求方块的长

mov ax,[ds:rectangleendx]

sub ax,[ds:rectanglestartx]

mov word[ds:linelength],ax

mov ax,[ds:rectanglestartx]

mov word[ds:linex],ax

mov ax,[ds:rectanglestarty]

mov word[ds:liney],ax

call painthorizontalline

mov ax,[ds:rectanglestartx]

mov word[ds:linex],ax

mov ax,[ds:rectangleendy]

mov word[ds:liney],ax

call painthorizontalline

;求方块的宽

mov ax,[ds:rectangleendy]

sub ax,[ds:rectanglestarty]

mov word[ds:linelength],ax

mov ax,[ds:rectanglestartx]

mov word[ds:linex],ax

mov ax,[ds:rectanglestarty]

mov word[ds:liney],ax

call paintverticalline

mov ax,[ds:rectangleendx]

mov word[ds:linex],ax

mov ax,[ds:rectanglestarty]

mov word[ds:liney],ax

call paintverticalline

exitpaintrect:

ret

;

;

;画填充颜色的方块

paintfilledrectangle:

;外轮廓

call paintrectangle

;内轮廓

;求方块的长,并把长度参数放在linelength内存中

mov ax,[ds:rectangleendx]

sub ax,[ds:rectanglestartx]

sub ax,2

mov word[ds:linelength],ax

;求方块的宽

mov dx,[ds:rectangleendy]

sub dx,[ds:rectanglestarty]

sub dx,2

mov word[ds:totalcyclecount],dx

;循环次数初始化

mov word[ds:cyclecount],0

mov ax,[ds:rectanglestartx]

inc ax

mov word[ds:linex],ax

mov ax,[ds:rectanglestarty]

inc ax

mov word[ds:liney],ax

mov dx,[ds:totalcyclecount]

fiiledrectangleloop:

cmp [ds:cyclecount],dx

ja exitpaintfilledrect

mov cl,[ds:brush]

mov byte[ds:pen],cl

call painthorizontalline

add word[ds:liney],1

add word[ds:cyclecount],1

mov dx,[ds:totalcyclecount]

jmp fiiledrectangleloop

exitpaintfilledrect:

ret

;

;

;编辑调色板总颜色

editpallete:

mov si,pallete

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

call editcolor

editpalleteexit:

ret

;---------------------------------模式选择和中断初始化-----------------------------------------

charactermode:

mov ax,0xb800

mov es,ax

charactermodeexit:

ret

picturemode:

mov ah,00h

mov al,13h

int 10h

picturemodeexit:

ret

keyinit:

;键盘中断偏移地址

mov word[ds:0x24],int\_key

;键盘中断起始地址

mov word[ds:0x26],0

keyinitexit:

ret

timerinit:

;定时器中断偏移地址

mov word[ds:0x20],int\_time0

;定时器中断起始地址

mov word[ds:0x22],0

mov bx,0

timerinitexit:

ret

;---------------------------------图形模式基本图形窗口调用绘制---------------------------------

;

;

;基础窗口绘制

paintwindow:

call editpallete

;0xb800为显存的段基址

mov ax,0xa000

mov es,ax

;模拟窗体绘制

;窗口上方

mov word[ds:rectanglestartx],10

mov word[ds:rectanglestarty],20

mov word[ds:rectangleendx],300

mov word[ds:rectangleendy],30

mov byte[ds:pen],2

mov byte[ds:brush],2

call paintfilledrectangle

;窗口下方

mov word[ds:rectanglestartx],10

mov word[ds:rectanglestarty],30

mov word[ds:rectangleendx],300

mov word[ds:rectangleendy],180

call paintrectangle

;滑轮外轮廓

mov word[ds:rectanglestartx],290

mov word[ds:rectanglestarty],30

mov word[ds:rectangleendx],300

mov word[ds:rectangleendy],180

call paintrectangle

;滑轮

mov word[ds:rectanglestartx],291

mov word[ds:rectanglestarty],80

mov word[ds:rectangleendx],299

mov word[ds:rectangleendy],120

mov byte[ds:pen],1

mov byte[ds:brush],1

call paintfilledrectangle

;关闭按钮

mov word[ds:rectanglestartx],280

mov word[ds:rectanglestarty],20

mov word[ds:rectangleendx],300

mov word[ds:rectangleendy],30

mov byte[ds:pen],3

mov byte[ds:brush],3

call paintfilledrectangle

paintwindowexit:

ret

clearwindowcontent:

mov word[ds:clearstartx],11

mov word[ds:clearstarty],31

mov word[ds:clearendx],289

mov word[ds:clearendy],179

call clearregioncontent

clearwindowcontentexit:

ret

clearregioncontent:

;窗口下方

mov ax,[ds:clearstartx]

mov word[ds:rectanglestartx],ax

mov ax,[ds:clearstarty]

mov word[ds:rectanglestarty],ax

mov ax,[ds:clearendx]

mov word[ds:rectangleendx],ax

mov ax,[ds:clearendy]

mov word[ds:rectangleendy],ax

mov byte[ds:pen],0

mov byte[ds:brush],0

call paintfilledrectangle

clearregioncontentexit:

ret

paintmainwindow:

;主界面初始化

call paintwindow

call initbutton11

call paintrespectivebutton1

call initbutton12

call paintrespectivebutton1

call initbutton13

call paintrespectivebutton1

;画图标旁边A B C

call paintABC

paintmainwindowexit:

ret

;-------------------------------图形模式基本图形进度条调用绘制---------------------------------

;进度条内部填充

paintprogressoutline:

mov word[ds:rectanglestartx],20

mov word[ds:rectanglestarty],95

mov word[ds:rectangleendx],281

mov word[ds:rectangleendy],115

mov byte[ds:pen],2

call paintrectangle

paintprogressoutlineexit:

ret

paintprogress1:

mov word[ds:rectanglestartx],21

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],39

mov word[ds:rectangleendy],114

mov byte[ds:pen],11

mov byte[ds:brush],11

call paintfilledrectangle

paintprogress1exit:

ret

paintprogress2:

mov word[ds:rectanglestartx],58

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],76

mov word[ds:rectangleendy],114

mov byte[ds:pen],12

mov byte[ds:brush],12

call paintfilledrectangle

paintprogress2exit:

ret

paintprogress3:

mov word[ds:rectanglestartx],95

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],113

mov word[ds:rectangleendy],114

mov byte[ds:pen],13

mov byte[ds:brush],13

call paintfilledrectangle

paintprogress3exit:

ret

paintprogress4:

mov word[ds:rectanglestartx],132

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],150

mov word[ds:rectangleendy],114

mov byte[ds:pen],14

mov byte[ds:brush],14

call paintfilledrectangle

paintprogress4exit:

ret

paintprogress5:

mov word[ds:rectanglestartx],169

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],187

mov word[ds:rectangleendy],114

mov byte[ds:pen],15

mov byte[ds:brush],15

call paintfilledrectangle

paintprogress5exit:

ret

paintprogress6:

mov word[ds:rectanglestartx],206

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],224

mov word[ds:rectangleendy],114

mov byte[ds:pen],16

mov byte[ds:brush],16

call paintfilledrectangle

paintprogress6exit:

ret

paintprogress7:

mov word[ds:rectanglestartx],243

mov word[ds:rectanglestarty],96

mov word[ds:rectangleendx],261

mov word[ds:rectangleendy],114

mov byte[ds:pen],17

mov byte[ds:brush],17

call paintfilledrectangle

paintprogress7exit:

ret

;总进度条封装

painttotalprogress:

call paintprogressoutline

call paintprogress1

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call paintprogress2

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call paintprogress3

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call paintprogress4

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call paintprogress5

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call paintprogress6

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call paintprogress7

;延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

painttotalprogressexit:

ret

;-------------------------------------------点阵函数调用---------------------------------

;

;--------------------------------------------安卓1------------------------------------

;点阵字符打印

paintrespectiveandroid1:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectiveandroid1rowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectiveandroid1

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectiveandroid1columnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintandroid1rowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[android1+bx],1

;pop ax

jne nextpaintandroid1columnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintandroid1columnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectiveandroid1columnloop

nextpaintandroid1rowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectiveandroid1rowloop

exitpaintrespectiveandroid1:

ret

initandroid1:

mov word[ds:charLength],41

mov word[ds:charHeight],30

mov word[ds:charStartX],15

mov word[ds:charStartY],45

mov word[ds:linelength],1

mov byte[ds:pen],6

initandroid1exit:

ret

;--------------------------------------------安卓2-----------------------------------

;点阵字符打印

paintrespectiveandroid2:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectiveandroid2rowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectiveandroid2

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectiveandroid2columnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintandroid2rowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[android2+bx],1

;pop ax

jne nextpaintandroid2columnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintandroid2columnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectiveandroid2columnloop

nextpaintandroid2rowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectiveandroid2rowloop

exitpaintrespectiveandroid2:

ret

initandroid21:

mov word[ds:charLength],24

mov word[ds:charHeight],18

mov word[ds:charStartX],70

mov word[ds:charStartY],52

mov word[ds:linelength],1

mov byte[ds:pen],5

initandroid21exit:

ret

initandroid22:

mov word[ds:charLength],24

mov word[ds:charHeight],18

mov word[ds:charStartX],163

mov word[ds:charStartY],52

mov word[ds:linelength],1

mov byte[ds:pen],5

initandroid22exit:

ret

initandroid23:

mov word[ds:charLength],24

mov word[ds:charHeight],18

mov word[ds:charStartX],242

mov word[ds:charStartY],52

mov word[ds:linelength],1

mov byte[ds:pen],5

initandroid23exit:

ret

initandroid24:

mov word[ds:charLength],24

mov word[ds:charHeight],18

mov word[ds:charStartX],120

mov word[ds:charStartY],100

mov word[ds:linelength],1

mov byte[ds:pen],5

initandroid24exit:

ret

initandroid25:

mov word[ds:charLength],24

mov word[ds:charHeight],18

mov word[ds:charStartX],210

mov word[ds:charStartY],100

mov word[ds:linelength],1

mov byte[ds:pen],5

initandroid25exit:

ret

;--------------------------------------------安卓3-----------------------------------

;点阵字符打印

paintrespectiveandroid3:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectiveandroid3rowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectiveandroid3

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectiveandroid3columnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintandroid3rowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[android3+bx],1

;pop ax

jne nextpaintandroid3columnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintandroid3columnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectiveandroid3columnloop

nextpaintandroid3rowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectiveandroid3rowloop

exitpaintrespectiveandroid3:

ret

initandroid3:

mov word[ds:charLength],54

mov word[ds:charHeight],30

mov word[ds:charStartX],105

mov word[ds:charStartY],45

mov word[ds:linelength],1

mov byte[ds:pen],7

initandroid3exit:

ret

;--------------------------------------------安卓4-----------------------------------

;点阵字符打印

paintrespectiveandroid4:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectiveandroid4rowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectiveandroid4

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectiveandroid4columnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintandroid4rowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[android4+bx],1

;pop ax

jne nextpaintandroid4columnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintandroid4columnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectiveandroid4columnloop

nextpaintandroid4rowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectiveandroid4rowloop

exitpaintrespectiveandroid4:

ret

initandroid4:

mov word[ds:charLength],42

mov word[ds:charHeight],28

mov word[ds:charStartX],190

mov word[ds:charStartY],45

mov word[ds:linelength],1

mov byte[ds:pen],8

initandroid4exit:

ret

;--------------------------------------------安卓5-----------------------------------

;点阵字符打印

paintrespectiveandroid5:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectiveandroid5rowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectiveandroid5

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectiveandroid5columnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintandroid5rowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[android5+bx],1

;pop ax

jne nextpaintandroid5columnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintandroid5columnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectiveandroid5columnloop

nextpaintandroid5rowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectiveandroid5rowloop

exitpaintrespectiveandroid5:

ret

initandroid5:

mov word[ds:charLength],26

mov word[ds:charHeight],30

mov word[ds:charStartX],80

mov word[ds:charStartY],100

mov word[ds:linelength],1

mov byte[ds:pen],9

initandroid5exit:

ret

;--------------------------------------------安卓6-----------------------------------

;点阵字符打印

paintrespectiveandroid6:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectiveandroid6rowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectiveandroid6

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectiveandroid6columnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintandroid6rowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[android6+bx],1

;pop ax

jne nextpaintandroid6columnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintandroid6columnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectiveandroid6columnloop

nextpaintandroid6rowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectiveandroid6rowloop

exitpaintrespectiveandroid6:

ret

initandroid6:

mov word[ds:charLength],48

mov word[ds:charHeight],28

mov word[ds:charStartX],152

mov word[ds:charStartY],100

mov word[ds:linelength],1

mov byte[ds:pen],10

initandroid6exit:

ret

paintallandroid:

call initandroid1

call paintrespectiveandroid1

call initandroid21

call paintrespectiveandroid2

call initandroid22

call paintrespectiveandroid2

call initandroid23

call paintrespectiveandroid2

call initandroid24

call paintrespectiveandroid2

call initandroid25

call paintrespectiveandroid2

call initandroid3

call paintrespectiveandroid3

call initandroid4

call paintrespectiveandroid4

call initandroid5

call paintrespectiveandroid5

call initandroid6

call paintrespectiveandroid6

paintallandroidexit:

ret

;------------------------------------------新年快乐-----------------------------------

;点阵字符打印

paintrespectivehappynewyear:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectivehappynewyearrowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectivehappynewyear

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectivehappynewyearcolumnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpainthappynewyearrowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[happynewyear+bx],1

;pop ax

jne nextpainthappynewyearcolumnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpainthappynewyearcolumnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectivehappynewyearcolumnloop

nextpainthappynewyearrowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectivehappynewyearrowloop

exitpaintrespectivehappynewyear:

ret

inithappynewyear1:

mov word[ds:charLength],240

mov word[ds:charHeight],40

mov word[ds:charStartX],32

mov word[ds:charStartY],85

mov word[ds:linelength],1

mov byte[ds:pen],10

inithappynewyear1exit:

ret

inithappynewyear2:

mov word[ds:charLength],240

mov word[ds:charHeight],40

mov word[ds:charStartX],32

mov word[ds:charStartY],85

mov word[ds:linelength],1

mov byte[ds:pen],7

inithappynewyear2exit:

ret

inithappynewyear3:

mov word[ds:charLength],240

mov word[ds:charHeight],40

mov word[ds:charStartX],32

mov word[ds:charStartY],85

mov word[ds:linelength],1

mov byte[ds:pen],6

inithappynewyear3exit:

ret

;--------------------------------新年快乐动画轮播

happynewyearround:

mov dword[ds:fireworkoutputcycle],0x4ffff

happynewyearroundloop:

cmp dword[ds:fireworkoutputcycle],0

je happynewyearroundexit

;call timerinit

;-----------------------------阶段1

call initfirework11

call paintrespectivefirework1

call initfirework12

call paintrespectivefirework1

call initfirework13

call paintrespectivefirework1

call initfirework14

call paintrespectivefirework1

call inithappynewyear1

call paintrespectivehappynewyear

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call clearwindowcontent

;-----------------------------阶段2

call initfirework21

call paintrespectivefirework2

call initfirework22

call paintrespectivefirework2

call initfirework23

call paintrespectivefirework2

call initfirework24

call paintrespectivefirework2

call inithappynewyear2

call paintrespectivehappynewyear

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call clearwindowcontent

;------------------------------阶段3

call initfirework31

call paintrespectivefirework3

call initfirework32

call paintrespectivefirework3

call initfirework33

call paintrespectivefirework3

call initfirework34

call paintrespectivefirework3

call inithappynewyear3

call paintrespectivehappynewyear

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call clearwindowcontent

dec dword[ds:fireworkoutputcycle]

jmp happynewyearroundloop

happynewyearroundexit:

ret

;------------------------------------------烟花1--------------------------------------

;点阵字符打印

paintrespectivefirework1:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectivefirework1rowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectivefirework1

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectivefirework1columnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintfirework1rowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[firework1+bx],1

;pop ax

jne nextpaintfirework1columnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintfirework1columnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectivefirework1columnloop

nextpaintfirework1rowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectivefirework1rowloop

exitpaintrespectivefirework1:

ret

initfirework11:

mov word[ds:charLength],22

mov word[ds:charHeight],13

mov word[ds:charStartX],12

mov word[ds:charStartY],35

mov word[ds:linelength],1

mov byte[ds:pen],6

initfirework11exit:

ret

initfirework12:

mov word[ds:charLength],22

mov word[ds:charHeight],13

mov word[ds:charStartX],250

mov word[ds:charStartY],35

mov word[ds:linelength],1

mov byte[ds:pen],6

initfirework12exit:

ret

initfirework13:

mov word[ds:charLength],22

mov word[ds:charHeight],13

mov word[ds:charStartX],12

mov word[ds:charStartY],150

mov word[ds:linelength],1

mov byte[ds:pen],6

initfirework13exit:

ret

initfirework14:

mov word[ds:charLength],22

mov word[ds:charHeight],13

mov word[ds:charStartX],250

mov word[ds:charStartY],150

mov word[ds:linelength],1

mov byte[ds:pen],6

initfirework14exit:

ret

;------------------------------------------烟花2--------------------------------------

;点阵字符打印

paintrespectivefirework2:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectivefirework2rowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectivefirework2

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectivefirework2columnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintfirework2rowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[firework2+bx],1

;pop ax

jne nextpaintfirework2columnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintfirework2columnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectivefirework2columnloop

nextpaintfirework2rowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectivefirework2rowloop

exitpaintrespectivefirework2:

ret

initfirework21:

mov word[ds:charLength],28

mov word[ds:charHeight],18

mov word[ds:charStartX],12

mov word[ds:charStartY],35

mov word[ds:linelength],1

mov byte[ds:pen],7

initfirework21exit:

ret

initfirework22:

mov word[ds:charLength],28

mov word[ds:charHeight],18

mov word[ds:charStartX],250

mov word[ds:charStartY],35

mov word[ds:linelength],1

mov byte[ds:pen],7

initfirework22exit:

ret

initfirework23:

mov word[ds:charLength],28

mov word[ds:charHeight],18

mov word[ds:charStartX],12

mov word[ds:charStartY],150

mov word[ds:linelength],1

mov byte[ds:pen],7

initfirework23exit:

ret

initfirework24:

mov word[ds:charLength],28

mov word[ds:charHeight],18

mov word[ds:charStartX],250

mov word[ds:charStartY],150

mov word[ds:linelength],1

mov byte[ds:pen],7

initfirework24exit:

ret

;------------------------------------------烟花3--------------------------------------

;点阵字符打印

paintrespectivefirework3:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectivefirework3rowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectivefirework3

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectivefirework3columnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintfirework3rowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[firework3+bx],1

;pop ax

jne nextpaintfirework3columnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintfirework3columnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectivefirework3columnloop

nextpaintfirework3rowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectivefirework3rowloop

exitpaintrespectivefirework3:

ret

initfirework31:

mov word[ds:charLength],40

mov word[ds:charHeight],24

mov word[ds:charStartX],12

mov word[ds:charStartY],35

mov word[ds:linelength],1

mov byte[ds:pen],10

initfirework31exit:

ret

initfirework32:

mov word[ds:charLength],40

mov word[ds:charHeight],24

mov word[ds:charStartX],240

mov word[ds:charStartY],35

mov word[ds:linelength],1

mov byte[ds:pen],10

initfirework32exit:

ret

initfirework33:

mov word[ds:charLength],40

mov word[ds:charHeight],24

mov word[ds:charStartX],12

mov word[ds:charStartY],150

mov word[ds:linelength],1

mov byte[ds:pen],10

initfirework33exit:

ret

initfirework34:

mov word[ds:charLength],40

mov word[ds:charHeight],24

mov word[ds:charStartX],240

mov word[ds:charStartY],150

mov word[ds:linelength],1

mov byte[ds:pen],10

initfirework34exit:

ret

;------------------------------------------首页三个按钮-----------------------------

;--------------------------------------------按钮1

;点阵字符打印

paintrespectivebutton1:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectivebutton1rowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectivebutton1

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectivebutton1columnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintbutton1rowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[button1+bx],1

;pop ax

jne nextpaintbutton1columnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintbutton1columnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectivebutton1columnloop

nextpaintbutton1rowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectivebutton1rowloop

exitpaintrespectivebutton1:

ret

initbutton11:

mov word[ds:charLength],40

mov word[ds:charHeight],27

mov word[ds:charStartX],30

mov word[ds:charStartY],50

mov word[ds:linelength],1

mov byte[ds:pen],6

initbutton11exit:

ret

initbutton12:

mov word[ds:charLength],40

mov word[ds:charHeight],27

mov word[ds:charStartX],100

mov word[ds:charStartY],90

mov word[ds:linelength],1

mov byte[ds:pen],7

initbutton12exit:

ret

initbutton13:

mov word[ds:charLength],40

mov word[ds:charHeight],27

mov word[ds:charStartX],170

mov word[ds:charStartY],130

mov word[ds:linelength],1

mov byte[ds:pen],8

initbutton13exit:

ret

;-----------------------------------------扬声器按钮

;点阵字符打印

paintrespectivevoice:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectivevoicerowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectivevoice

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectivevoicecolumnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintvoicerowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[voice+bx],1

;pop ax

jne nextpaintvoicecolumnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintvoicecolumnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectivevoicecolumnloop

nextpaintvoicerowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectivevoicerowloop

exitpaintrespectivevoice:

ret

initvoice:

mov word[ds:charLength],40

mov word[ds:charHeight],18

mov word[ds:charStartX],30

mov word[ds:charStartY],160

mov word[ds:linelength],1

mov byte[ds:pen],8

initvoiceexit:

ret

;-------------------------------------------按钮3

;点阵字符打印

paintrespectivebutton3:

;循环初始化

mov word[ds:charIndex],0

mov word[ds:charRowIndex],0

mov word[ds:charColumnIndex],0

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charStartY]

mov word[ds:charY],ax

;外层循环

paintrespectivebutton3rowloop:

mov dx,[ds:charHeight]

cmp word[ds:charRowIndex],dx

jae exitpaintrespectivebutton3

;内层循环

;内层循环初始化

mov word[ds:charColumnIndex],0

paintrespectivebutton3columnloop:

;单行比较

mov bx,word[ds:charColumnIndex]

cmp bx,[ds:charLength]

jae nextpaintbutton3rowloop

mov bx,[ds:charIndex]

;push ax

;and byte[si+bx],1

;and ax,1

cmp byte[button3+bx],1

;pop ax

jne nextpaintbutton3columnloop

;绘制点，因为点是线长度为1的特殊体现，因此这里直接画线

;cx作为中间过渡桥梁，把charX转到linex中

mov cx,[ds:charX]

mov word[ds:linex],cx

;这里到时候要加上charY

mov cx,[ds:charY]

mov word[ds:liney],cx

call paintverticalline

;内层循环处理下一次

nextpaintbutton3columnloop:

inc word[ds:charX]

inc word[ds:charColumnIndex]

inc word[ds:charIndex]

jmp paintrespectivebutton3columnloop

nextpaintbutton3rowloop:

;外层循环的下一次:点阵行下标+1,列下标恢复到0

inc word[ds:charRowIndex]

mov word[ds:charColumnIndex],0

;下一次循环的字符点阵起始x和y坐标

mov ax,[ds:charStartX]

mov word[ds:charX],ax

mov ax,[ds:charRowIndex]

add ax,[ds:charStartY]

mov word[ds:charY],ax

jmp paintrespectivebutton3rowloop

exitpaintrespectivebutton3:

ret

initbutton3:

mov word[ds:charLength],23

mov word[ds:charHeight],10

mov word[ds:charStartX],12

mov word[ds:charStartY],35

mov word[ds:linelength],1

mov byte[ds:pen],10

initbutton3exit:

ret

paintABC:

call paintA

call paintB

call paintC

ret

paintA:

mov word[ds:liez],90 ;列偏移量

mov word[ds:hangz],16960 ;行偏移量

mov word[ds:shuzuz],0 ;数组偏移量

mov word[ds:colorz],6 ;数组偏移量

call prtzimu

ret

paintB:

mov word[ds:liez],160 ;列偏移量

mov word[ds:hangz],29760 ;行偏移量

mov word[ds:shuzuz],400 ;数组偏移量

mov word[ds:colorz],7 ;数组偏移量

call prtzimu

ret

paintC:

mov word[ds:liez],230 ;列偏移量

mov word[ds:hangz],42560 ;行偏移量

mov word[ds:shuzuz],800 ;数组偏移量

mov word[ds:colorz],8 ;数组偏移量

call prtzimu

ret

prtzimu:

push dx

push bx

push cx

push si

push ax

mov dx,0 ;循环里的计数器

mov cx,0 ;换行计数器

mov si,0

;mov si,zimua ;dx:计数数组位置

mov bx, word[ds:liez] ;640 ;bx:

mov di, word[ds:hangz] ;加上设定的初始值

add bx,di

mov ax, word[ds:shuzuz ] ;计算偏移量 ;400是可以的！;400 ;0

add si,ax

x77:

mov al,byte[ds:zimua+si]

cmp al,1

jnz x88

;-------------染色+输出

mov di,word[ds:colorz] ;上色

mov word[es:bx],di;

;---------------------

x88:

add si,1

add dx,1

add bx,1

add cx,1

cmp dx,400 ;20\*20-1 40\*40-1

ja end71

cmp cx,20 ;一行20个

jnz x77

mov cx,0

sub bx,20 ;减一行个数

add bx,320

jmp x77

end71:

pop dx

pop bx

pop cx

pop si

pop ax

ret

;------------------------------------------扬声器函数声明---------------------------

;声音延时

sounddelay:

mov dword[ds:soundoutputcycle],0X4ffff

sounddelayloop:

cmp dword[ds:soundoutputcycle],0

je sounddelayexit

dec dword[ds:soundoutputcycle]

jmp sounddelayloop

sounddelayexit:

ret

;设置频率

frequencysetting:

MOV DX,12H

MOV AX,34DEH

mov si,[ds:pianooutputkey]

MOV DI,word[ds:pianokey+si]

DIV DI

mov word[ds:pianooutputkey],ax

frequencysettingexit:

ret

;给扬声器定时器频率

timerfrequencysetting:

mov al,10110110B

out 43h,al

mov ax,word[ds:pianooutputkey]

out 42h,al

mov al,ah

out 42h,al

timerfrequencysettingexit:

ret

;扬声器端口打开

soundopen:

in al,61h

or al,00000011B

out 61h,al

soundplayexit:

ret

;扬声器端口关闭

soundclose:

in al,61h

and al,11111101B

out 61h,al

soundcloseexit:

ret

;--------------------------------------字符打印区函数-----------------------------

prtresult:

;进入图形页面

call picturemode

;画字

call prtagain

call prtzheng1

call prtnumber

ret

prtnumber:

push bx

mov bx,word[ds:persontime]

cmp bx,0

jnz y1

;call prtzi0

jmp end8

y1:

cmp bx,1

jnz y2

;call prtzi1

jmp end8

y2:

cmp bx,2

jnz y3

;call prtzi2

jmp end8

y3:

cmp bx,3

jnz y4

call prtzi3

jmp end8

y4:

cmp bx,4

jnz y5

;call prtzi4

jmp end8

y5:

cmp bx,5

jnz y6

;call prtzi5

jmp end8

y6:

cmp bx,6

jnz y7

;call prtzi6

jmp end8

y7:

cmp bx,7

jnz y8

;call prtzi7

jmp end8

y8:

cmp bx,8

jnz y9

;call prtzi8

jmp end8

y9:

cmp bx,9

jnz end8

;call prtzi9

jmp end8

end8:

pop bx

ret

prtzi3:

push dx

push bx

push cx

push si

push ax

mov dx,0 ;循环里的计数器

mov cx,0 ;换行计数器

mov si,0

mov bx, word[ds:numlocation ]

x255:

mov al,byte[ds:zi3+si]

cmp al,1

jnz x26

;-------------染色+输出

mov word[es:bx],8; ;正确率用8号颜色

;---------------------

x26:

add si,1

add dx,1

add bx,1

add cx,1

cmp dx,400 ;20\*20-1 40\*40-1

ja end35

cmp cx,20 ;一行20个

jnz x255

mov cx,0

sub bx,20 ;减一行个数

add bx,320

jmp x255

end35:

pop dx

pop bx

pop cx

pop si

pop ax

ret

prtzheng1:

push dx

push bx

push cx

push si

push ax

mov dx,0 ;循环里的计数器

mov cx,0 ;换行计数器

mov si,0

mov bx, word[ds:zheng1questartlocation]

x17:

mov al,byte[ds:zheng1+si]

cmp al,1

jnz x16

;-------------染色+输出

mov word[es:bx],8; ;正确率用8号颜色

;---------------------

x16:

add si,1

add dx,1

add bx,1

add cx,1

cmp dx,400 ;20\*20-1 40\*40-1

ja end3

cmp cx,20 ;一行20个

jnz x17

mov cx,0

sub bx,20 ;减一行个数

add bx,320

jmp x17

end3:

pop dx

pop bx

pop cx

pop si

pop ax

ret

prtzheng2:

push dx

push bx

push cx

push si

push ax

mov dx,0 ;循环里的计数器

mov cx,0 ;换行计数器

mov si,0

mov bx, word[ds:zheng2questartlocation]

x18:

mov al,byte[ds:zheng2+si]

cmp al,1

jnz x19

;-------------染色+输出

mov word[es:bx],8; ;正确率用8号颜色

;---------------------

x19:

add si,1

add dx,1

add bx,1

add cx,1

cmp dx,400 ;20\*20-1 40\*40-1

ja end7

cmp cx,20 ;一行20个

jnz x18

mov cx,0

sub bx,20 ;减一行个数

add bx,320

jmp x18

end7:

pop dx

pop bx

pop cx

pop si

pop ax

ret

;染色 答案正确

drawzimucolor1:

push bx

mov bx,word[ds:personindex]

mov word[ds:zimucolor+bx],6 ;对了的之前变橘色

pop bx

ret

;染色 答案错误

drawzimucolor2:

push bx

mov bx,word[ds:personindex]

mov word[ds:zimucolor+bx],7 ;对了的之前变白色

pop bx

ret

prtagain:

;call picturemode;进入图形页面

;call clear

call paintwindow

call prtzimubycolorandnum

ret

clear :

push ax

push bx

;上色

cleara:

mov bx,0

mov word[es:bx],0

add bx,1

cmp bx,6400

je cleara

pop ax

pop bx

ret

;根据 颜色，字符 画字符串

prtzimubycolorandnum:

push si

push di

push cx

push dx

push ax

mov bx,0 ;字母偏移量 用si赋值转移

mov si,0

mov cx,0 ;数组计数器

prtprtzimubycolorandnum:

mov ax, word[ds:zimuchar+bx];取char字数组 0--a 1--b 2---c 3--d

mov di,word[ds:zimucolor+bx];取color颜色数组

mov word[ds:selectcolor],di ;赋值到selectcolor里面

mov word[ds:zumucharindex],ax ;赋值到index 输出 A B C D

mov word[ds:zimuindex],cx ;起点位置 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*换成固定位置 可以 输出

call jisuanindex;计算下标

call jisuanindex2;

call prthanzi ;画一个

add si,2 ;数组指针+2

mov bx,si

add cx,1;计数器+1

;----------------------test测试 循环了几次

;push bx

;mov bx,word[ds:zimufirstelocation1]

;mov word[es:bx],1 ;输出

;add bx,330

;mov word[ds:zimufirstelocation1],bx

;pop bx

;----------------------------

cmp cx,24;比较次数 ----数组长度

jz end4

jmp prtprtzimubycolorandnum

end4:

pop si

pop di

pop cx

pop dx

pop ax

ret

jisuanindex:

push ax

;计算数组地址

mov ax, word[ds:zumucharindex]

cmp ax,0 ;是A

jnz x11

mov word[ds:zimucharindexnum ],0

jmp x13

x11:

cmp ax,1 ;是B

jnz x12

mov word[ds:zimucharindexnum ],400

jmp x13

x12:

cmp ax,2 ;是C

jnz x13

mov word[ds:zimucharindexnum ],800

x13:

pop ax

ret

jisuanindex2:

push ax

push dx

;计算输出的位置

mov ax, word[ds:zimuindex];取第一个位置 然后循环的时候每次加20

mov dx,20

mul dx

mov word[ds:zimufirstelocation],ax

pop dx

pop ax

ret

prthanzi:

push dx

push bx

push cx

push si

push ax

mov dx,0 ;循环里的计数器

mov cx,0 ;换行计数器

mov si,0

;mov si,zimua ;dx:计数数组位置

mov bx, word[ds:zimufirstelocation] ;640 ;bx:

mov di, word[ds:firstlocation] ;加上设定的初始值

cmp word[ds:zimufirstelocation],240

jb x10

add bx,6720 ;第二行

sub bx,240

x10:

add bx,di

mov ax, word[ds:zimucharindexnum ] ;计算偏移量 ;400是可以的！;400 ;0

add si,ax

x7:

mov al,byte[ds:zimua+si]

cmp al,1

jnz x8

;-------------染色+输出

mov di,word[ds:selectcolor] ;上色

mov word[es:bx],di;

;---------------------

x8:

add si,1

add dx,1

add bx,1

add cx,1

cmp dx,400 ;20\*20-1 40\*40-1

ja end2

cmp cx,20 ;一行20个

jnz x7

mov cx,0

sub bx,20 ;减一行个数

add bx,320

jmp x7

end2:

pop dx

pop bx

pop cx

pop si

pop ax

ret

reset :

mov dx,0

mov bx,0

mov cx,0

mov si,0

ret

;染色

draw:

push dx

push si

mov si,pallete;给数组传值

drawagagin:

mov dx,0x3c8

mov al,byte[ds:si]

out dx,al

add si, 1

mov dx,0x3c9

mov al,byte[ds:si]

out dx,al

add si, 1

mov al,byte[ds:si]

out dx,al

add si, 1

mov al,byte[ds:si]

out dx,al

add si, 1

cmp si,7 ; 比较的次数 4\*n 定义的颜色数

jb drawagagin

pop si

pop dx

ret

;-------------------------------------中断响应区----------------------------------

;------------------------------键盘中断

int\_key:

mov dx,0x60

;输入设备键盘通过缓冲区给CPU传送键盘编码，如果不取走缓冲区将一直保持满状态

in al,dx

;----------------------------------退出返回主界面监听

exittomainmode:

cmp al,0x12

jne mainmenumode

mov byte[ds:mainmutex],1

mov byte[ds:musicmutex],0

mov byte[ds:printcharactermutex],0

mov byte[ds:happynewyearmutex],0

call clearwindowcontent

call painttotalprogress

call clearwindowcontent

call paintmainwindow

;----------------------------------主菜单模块调用

mainmenumode:

cmp byte[ds:mainmutex],1

jne musicmode

changeintomusicmode:

;a--进入音乐模块

cmp al,0x1E

jne changeintoprintcharactermode

call clearwindowcontent

call painttotalprogress

mov byte[ds:mainmutex],0

mov byte[ds:musicmutex],1

call clearwindowcontent

call paintallandroid

jmp k1

;b--进入打字模块

changeintoprintcharactermode:

cmp al,0x30

jne changeintohappynewyearmode

call clearwindowcontent

call painttotalprogress

mov byte[ds:mainmutex],0

mov byte[ds:printcharactermutex],1

call clearwindowcontent

jmp k1

;c--进入新年快乐模块

changeintohappynewyearmode:

cmp al,0x2E

jne k1

call clearwindowcontent

call painttotalprogress

mov byte[ds:mainmutex],0

mov byte[ds:happynewyearmutex],1

call clearwindowcontent

jmp k1

;----------------------------------音乐模块调用

musicmode:

cmp byte[ds:musicmutex],1

jne printcharactermode

judgeCaptilizeDown:

cmp al,0x3A

jne judgeCaptilizeUp

judgeCaptilizeUp:

cmp al,0xBA

;如果大小切换键的按下和释放都不满足，则输入正常的键盘值

jne key\_output

;确定之前状态的大小键盘是开启还是关闭

cmp byte[ds:isCaptilize],1

jne openCaptilization

closeCaptilization:

;之前的大写模式开启，现在关闭大写

mov byte[ds:isCaptilize],0

call clearwindowcontent

jmp key\_output

openCaptilization:

;之前的大写模式没开启，现在开启大写

mov byte[ds:isCaptilize],1

jmp key\_output

key\_output:

cmp byte[ds:isCaptilize],1

jnz noncaptilize\_output

;声音播放输出区

captilize\_output:

;先清空上一次的内容

;call clearwindowcontent

;1

cmp al,0x02

jne nexts2

mov word[ds:pianooutputkey],0

call initandroid1

call paintrespectiveandroid1

call initandroid21

call paintrespectiveandroid2

call initvoice

call paintrespectivevoice

jmp key\_op

nexts2:

;2

cmp al,0x03

jne nexts3

mov word[ds:pianooutputkey],2

call initandroid5

call paintrespectiveandroid5

call initandroid25

call paintrespectiveandroid2

call initvoice

call paintrespectivevoice

jmp key\_op

nexts3:

;3

cmp al,0x04

jne nexts4

mov word[ds:pianooutputkey],4

call initandroid3

call paintrespectiveandroid3

call initandroid23

call paintrespectiveandroid2

call initvoice

call paintrespectivevoice

jmp key\_op

nexts4:

;4

cmp al,0x05

jne nexts5

mov word[ds:pianooutputkey],6

call initandroid4

call paintrespectiveandroid4

call initandroid22

call paintrespectiveandroid2

call initvoice

call paintrespectivevoice

jmp key\_op

nexts5:

;5

cmp al,0x06

jne nexts6

mov word[ds:pianooutputkey],8

call initandroid1

call paintrespectiveandroid1

call initandroid23

call paintrespectiveandroid2

call initvoice

call paintrespectivevoice

jmp key\_op

nexts6:

;6

cmp al,0x07

jne nexts7

mov word[ds:pianooutputkey],10

call initandroid22

call paintrespectiveandroid2

call initandroid6

call paintrespectiveandroid6

call initvoice

call paintrespectivevoice

jmp key\_op

nexts7:

;7

cmp al,0x08

jne k1

mov word[ds:pianooutputkey],12

call initvoice

call paintrespectivevoice

jmp key\_op

;小写输出区/不输出声音

noncaptilize\_output:

jmp next\_output

key\_op:

call frequencysetting

call timerfrequencysetting

;打开扬声器并延时一段时间后关闭

call soundclose

call soundopen

call sounddelay

call soundclose

;图像延迟消失

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call clearwindowcontent

call initvoice

call paintrespectivevoice

jmp next\_output

;下一次输出区的屏幕位置

next\_output:

;add si,2

;----------------------------------------字符打印模块

printcharactermode:

cmp byte[ds:printcharactermutex],1

jne happynewyearmode

;在进入程序前先判断 是否已经结束了

mov cx,word [ds:zimucharsize]

add cx,cx

mov bx,word[ds:personindex]

cmp bx,cx

jae x14

jmp x15

x14:

mov word[ds:daziendflag],1

call prtresult ;打印成绩

jmp k1

x15:

cmp al,0x9e ;比较一下是不是'A'

jnz kc1

mov word[ds:presszimu],'A'

;mov word[ds:presszimuindex],0

jmp produce

kc1:

cmp al,0xb0 ;比较一下是不是'B'

jnz k2

mov word[ds:presszimu],'B'

jmp produce

k2:

cmp al,0xae ;比较一下是不是'C'

jnz k3

mov word[ds:presszimu],'C'

jmp produce

k3:

cmp al,0xa0 ;比较一下是不是'D'

jnz k1;如果都不是 直接跳出

mov word[ds:presszimu],'D'

produce:

;进入处理

mov bx,word[ds:personindex] ;取出下标 给bx

mov cx,word[ds:zimuchar+bx] ;获得标准答案的数字

cmp cx,0 ;进行映射 先把标准答案化成字符

jnz k11

mov word[ds:biaozhunzimu],'A'

jmp k33

k11:

cmp cx,1 ;进行映射

jnz k22

mov word[ds:biaozhunzimu],'B'

jmp k33

k22:

cmp cx,2 ;进行映射

jnz k33

mov word[ds:biaozhunzimu],'C'

jmp k33

k33:

;比较和标准答案是不是相等 cx标准答案 presszimu 用户按下的键

mov cx, word[ds:biaozhunzimu]

cmp cx, word[ds:presszimu]

jnz end5;如果不相等 直接跳到下一个键盘中断

;如果相等 改变颜色为Red

;重新染色 染橘色

call drawzimucolor1

;计数器加1

mov bx,word[ds:persontime]

add bx,1

mov word[ds:persontime],bx

jmp end6

end5:

;重新染色 染白色

call drawzimucolor2

end6:

;人下标+1

mov bx,word[ds:personindex]

add bx,2

mov word[ds:personindex],bx

call prtagain

jmp k1

;----------------------------------------新年快乐模块

happynewyearmode:

cmp byte[ds:happynewyearmutex],1

jne k1

call happynewyearround

;-----------------------------------------键盘中断结束

k1:

mov dx,0x20

mov al,0x61

;键盘中断结束，让后面的中断进入

out dx,al

iret

;-------------------------------计时器中断

;中断任务1

int\_time0:

;--------------------------------------烟花模块----------------------------

sti

firework1show:

cmp byte[ds:fireworkmutex],1

jne firework2show

call initfirework11

call paintrespectivefirework1

call initfirework12

call paintrespectivefirework1

call initfirework13

call paintrespectivefirework1

call initfirework14

call paintrespectivefirework1

call inithappynewyear1

call paintrespectivehappynewyear

inc byte[ds:fireworkmutex]

;中断延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call clearwindowcontent

jmp intret

firework2show:

cmp byte[ds:fireworkmutex],2

jne firework3show

call initfirework21

call paintrespectivefirework2

call initfirework22

call paintrespectivefirework2

call initfirework23

call paintrespectivefirework2

call initfirework24

call paintrespectivefirework2

call inithappynewyear2

call paintrespectivehappynewyear

inc byte[ds:fireworkmutex]

;中断延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call clearwindowcontent

jmp intret

firework3show:

cmp byte[ds:fireworkmutex],3

jne intret

call initfirework31

call paintrespectivefirework3

call initfirework32

call paintrespectivefirework3

call initfirework33

call paintrespectivefirework3

call initfirework34

call paintrespectivefirework3

call inithappynewyear3

call paintrespectivehappynewyear

mov byte[ds:fireworkmutex],1

;中断延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call clearwindowcontent

jmp intret

;中断返回区

intret:

;中断延迟

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

call sounddelay

;中断区解锁,给中断标志位清0,保证中断多此执行

mov al,0x20

mov dx,0x20

out dx,al

;中断返回时有附带其他信息,比如标志位寄存器,SF比较大小信息

iret