

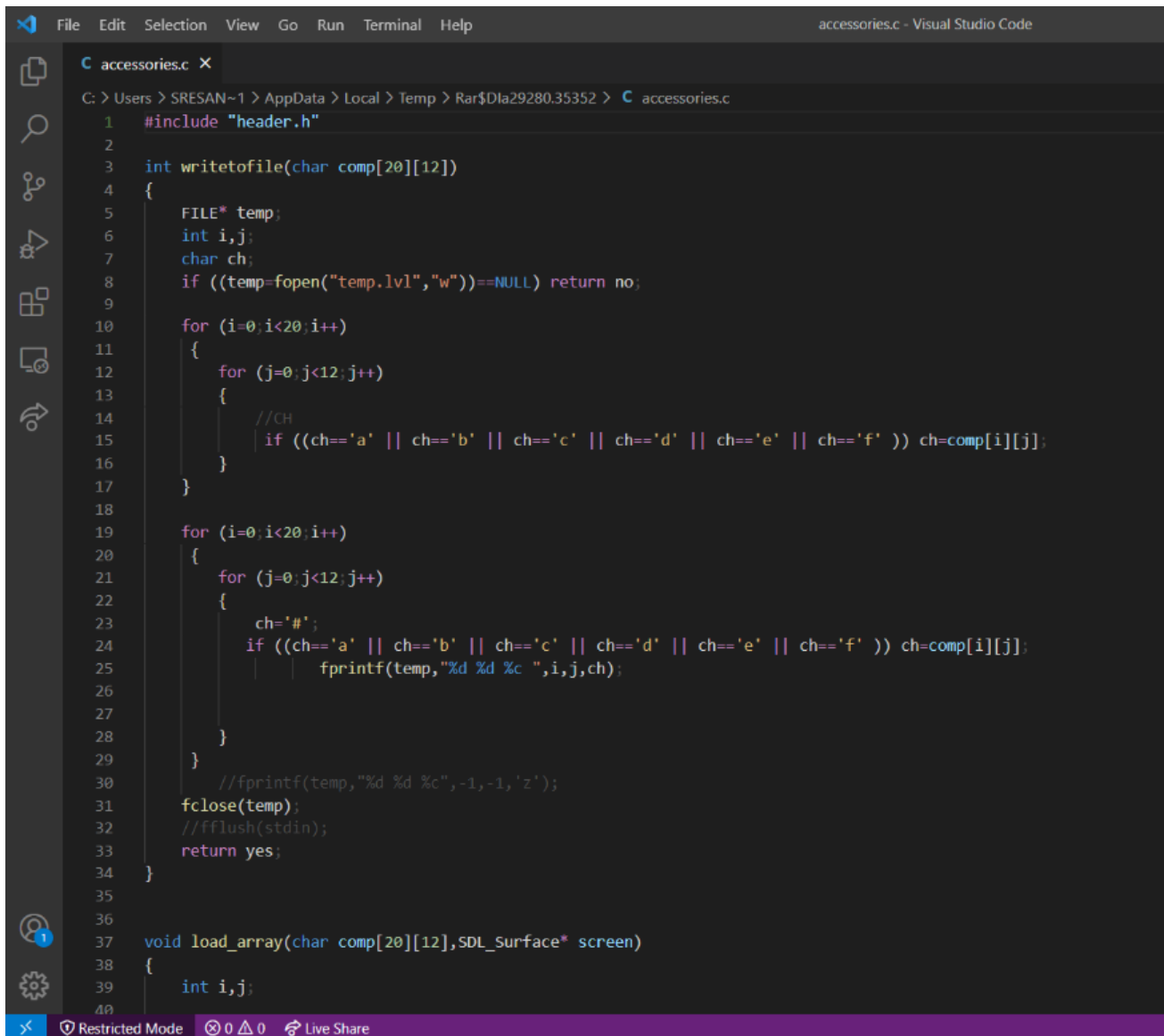
MINI C PROJECT

PACMAN GUI GAME

SOURCE CODE:

Before getting into main code part, dependencies and accessories are imp to make it work.

1. Accessories.c



```
accessories.c - Visual Studio Code

C: > Users > SRESAN~1 > AppData > Local > Temp > Rar$Dla29280.35352 > C accessories.c

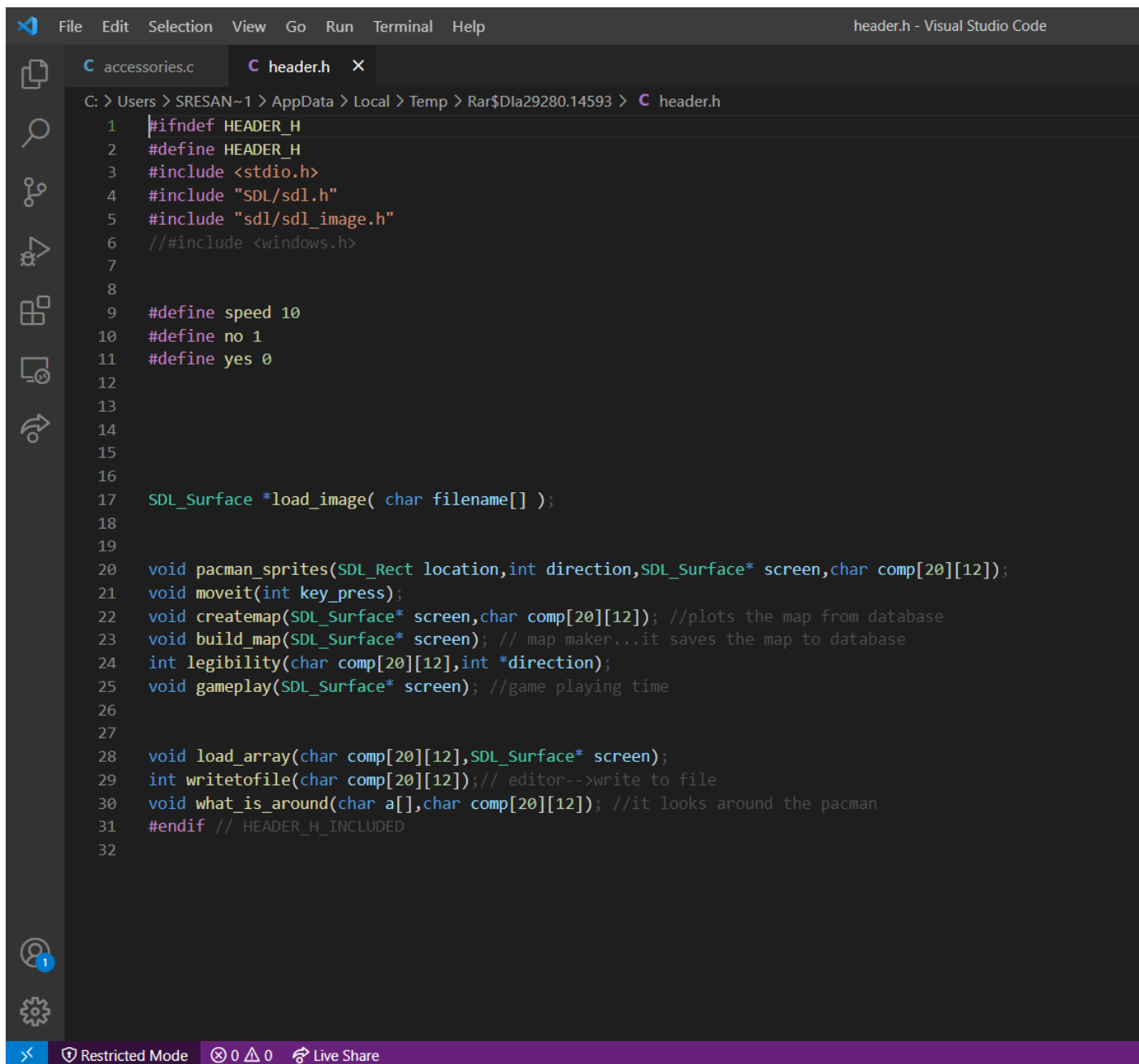
1  #include "header.h"
2
3  int writetofile(char comp[20][12])
4  {
5      FILE* temp;
6      int i,j;
7      char ch;
8      if ((temp=fopen("temp.lvl","w"))==NULL) return no;
9
10     for (i=0;i<20;i++)
11     {
12         for (j=0;j<12;j++)
13         {
14             //CH
15             if ((ch=='a' || ch=='b' || ch=='c' || ch=='d' || ch=='e' || ch=='f' )) ch=comp[i][j];
16         }
17     }
18
19     for (i=0;i<20;i++)
20     {
21         for (j=0;j<12;j++)
22         {
23             ch='#';
24             if ((ch=='a' || ch=='b' || ch=='c' || ch=='d' || ch=='e' || ch=='f' )) ch=comp[i][j];
25             fprintf(temp,"%d %d %c ",i,j,ch);
26         }
27     }
28     //fprintf(temp,"%d %d %c",-1,-1,'z');
29     fclose(temp);
30     fflush(stdin);
31     return yes;
32 }
33
34 void load_array(char comp[20][12],SDL_Surface* screen)
35 {
36     int i,j;
37     40
```

```
File Edit Selection View Go Run Terminal Help accessories.c - Visual Studio Code

accessories.c x
C: > Users > SRESAN~1 > AppData > Local > Temp > Rar$Dla29280.35352 > C accessories.c
34 }
35
36
37 void load_array(char comp[20][12],SDL_Surface* screen)
38 {
39     int i,j;
40
41     SDL_Surface* border_pic=load_image("borders.gif");
42     SDL_Rect left_top,right_top,left_bottom,right_bottom,horizontal,vertical;
43     SDL_Rect plotter; //stores cursor to where pic to be loaded
44     left_top.x=0;left_top.y=0;left_top.w=24;left_top.h=24;
45     right_top.x=24;right_top.y=0;right_top.w=24;right_top.h=24;
46     left_bottom.x=48;left_bottom.y=0;left_bottom.w=24;left_bottom.h=24;
47     right_bottom.x=72;right_bottom.y=0;right_bottom.w=24;right_bottom.h=24;
48     horizontal.x=96;horizontal.y=0;horizontal.w=24;horizontal.h=24;
49     vertical.x=120;vertical.y=0;vertical.w=24;vertical.h=24;
50
51
52     for (i=0;i<20;i++)
53     for (j=0;j<12;j++)
54     {
55         plotter.x=10*i*24;
56         plotter.y=11*j*24;
57         if (comp[i][j]=='a') SDL_BlitSurface(border_pic,&left_top,screen,&plotter);
58         else if (comp[i][j]=='b') SDL_BlitSurface(border_pic,&right_top,screen,&plotter);
59         else if (comp[i][j]=='c') SDL_BlitSurface(border_pic,&left_bottom,screen,&plotter);
60         else if (comp[i][j]=='d') SDL_BlitSurface(border_pic,&right_bottom,screen,&plotter);
61         else if (comp[i][j]=='e') SDL_BlitSurface(border_pic,&horizontal,screen,&plotter);
62         else if (comp[i][j]=='f') SDL_BlitSurface(border_pic,&vertical,screen,&plotter);
63     }
64 }
65
66
67
68
69
```

2.Header.h;

To define the macros and predefined in the program such as speed, move and position.

The image shows a screenshot of the Visual Studio Code editor interface. The top menu bar includes 'File', 'Edit', 'Selection', 'View', 'Go', 'Run', 'Terminal', and 'Help'. The title bar on the right says 'header.h - Visual Studio Code'. The file explorer on the left shows two files: 'accessories.c' and 'header.h', with 'header.h' selected. The main editor area displays the content of 'header.h' with line numbers from 1 to 32. The code includes preprocessor directives for headers and macros, followed by function declarations for game logic. The status bar at the bottom indicates 'Restricted Mode', '0 errors/warnings', and a 'Live Share' button.

```
1  #ifndef HEADER_H
2  #define HEADER_H
3  #include <stdio.h>
4  #include "SDL/sdl.h"
5  #include "sdl/sdl_image.h"
6  // #include <windows.h>
7
8
9  #define speed 10
10 #define no 1
11 #define yes 0
12
13
14
15
16
17 SDL_Surface *load_image( char filename[] );
18
19
20 void pacman_sprites(SDL_Rect location,int direction,SDL_Surface* screen,char comp[20][12]);
21 void moveit(int key_press);
22 void createmap(SDL_Surface* screen,char comp[20][12]); //plots the map from database
23 void build_map(SDL_Surface* screen); // map maker...it saves the map to database
24 int legibility(char comp[20][12],int *direction);
25 void gameplay(SDL_Surface* screen); //game playing time
26
27
28 void load_array(char comp[20][12],SDL_Surface* screen);
29 int writetofile(char comp[20][12]); // editor-->write to file
30 void what_is_around(char a[],char comp[20][12]); //it looks around the pacman
31 #endif // HEADER_H_INCLUDED
32
```

3.main.c file:

Main.c is the main executive file where all parts of code meets up. Main is the part where execution of the program begins.

```

C main.c x
C: > Users > SRESAN~1 > AppData > Local > Temp > Rar$Dla29280.35336 > C main.c
1  #include "header.h"
2
3
4
5  SDL_Rect cor={24,25};
6  int quit=no;
7
8  SDL_Surface *load_image( char filename[] )
9  {
10     //Temporary storage for the image that's loaded
11     SDL_Surface* loadedImage = NULL;
12
13     //The optimized image that will be used
14     SDL_Surface* optimizedImage = NULL;
15     //Load the image
16     char file[]="sprites/";
17     strcat(file,filename);
18
19     loadedImage = IMG_Load( file);
20     //If nothing went wrong in loading the image
21     if( loadedImage != NULL )
22     {
23         //Create an optimized image
24         optimizedImage = SDL_DisplayFormat( loadedImage );
25
26         //Free the old image
27         SDL_FreeSurface( loadedImage );
28     }
29     //Return the optimized image
30     return optimizedImage;
31 }
32
33
34
35 int main(int argc, char *argv[])
36 {
37     SDL_Init(SDL_INIT_EVERYTHING);
38     SDL_Surface* screen;
39     screen=SDL_SetVideoMode(500,350,32,SDL_SWSURFACE);
40     SDL_Surface* hp=load_image("dark.jpg");

```

File Edit Selection View Go Run Terminal Helpmain.c - Visual Studio Code

C main.c X

C: > Users > SRESAN~1 > AppData > Local > Temp > Rar\$Dla29280.35336 > C main.c

```
39     screen=SDL_SetVideoMode(500,350,32,SDL_SWSURFACE);
40     SDL_Surface* bg=load_image("dark.jpg");
41     int key_press;
42     SDL_WM_SetIcon(IMG_Load("pacman_16X16.png"), NULL);
43     SDL_WM_SetCaption("Pacman","pacman_16X16.png");
44
45     SDL_Event event;
46     extern int quit;
47
48     SDL_Blitsurface(bg,NULL,screen,NULL);
49     // build_map(screen);
50     gameplay(screen);
51
52
53
54     return 0;
55 }
56
57
58
59
60
61
62 void pacman_sprites(SDL_Rect location,int direction,SDL_Surface* screen,char comp[20][12])
63 {
64
65
66
67     SDL_Rect char_up,char_down,char_left,char_right,char_neutral,char_dead;
68     //definition of sprites
69     char_up.x=0; char_up.y=20; char_up.w=20; char_up.h=20;
70     char_down.x=20; char_down.y=20; char_down.w=20; char_down.h=20;
71     char_left.x=20; char_left.y=0; char_left.w=20; char_left.h=20;
72     char_right.x=40; char_right.y=0; char_right.w=20; char_right.h=20;
73     char_neutral.x=0; char_neutral.y=0; char_neutral.w=20; char_neutral.h=20;
74     char_dead.x=40; char_dead.y=20; char_dead.w=20; char_dead.h=20;
75     // end def of sprites
76     SDL_Surface *one,*two;
77     one=load_image("pacman.gif");
```

Restricted Mode 0 0 0 Live Share

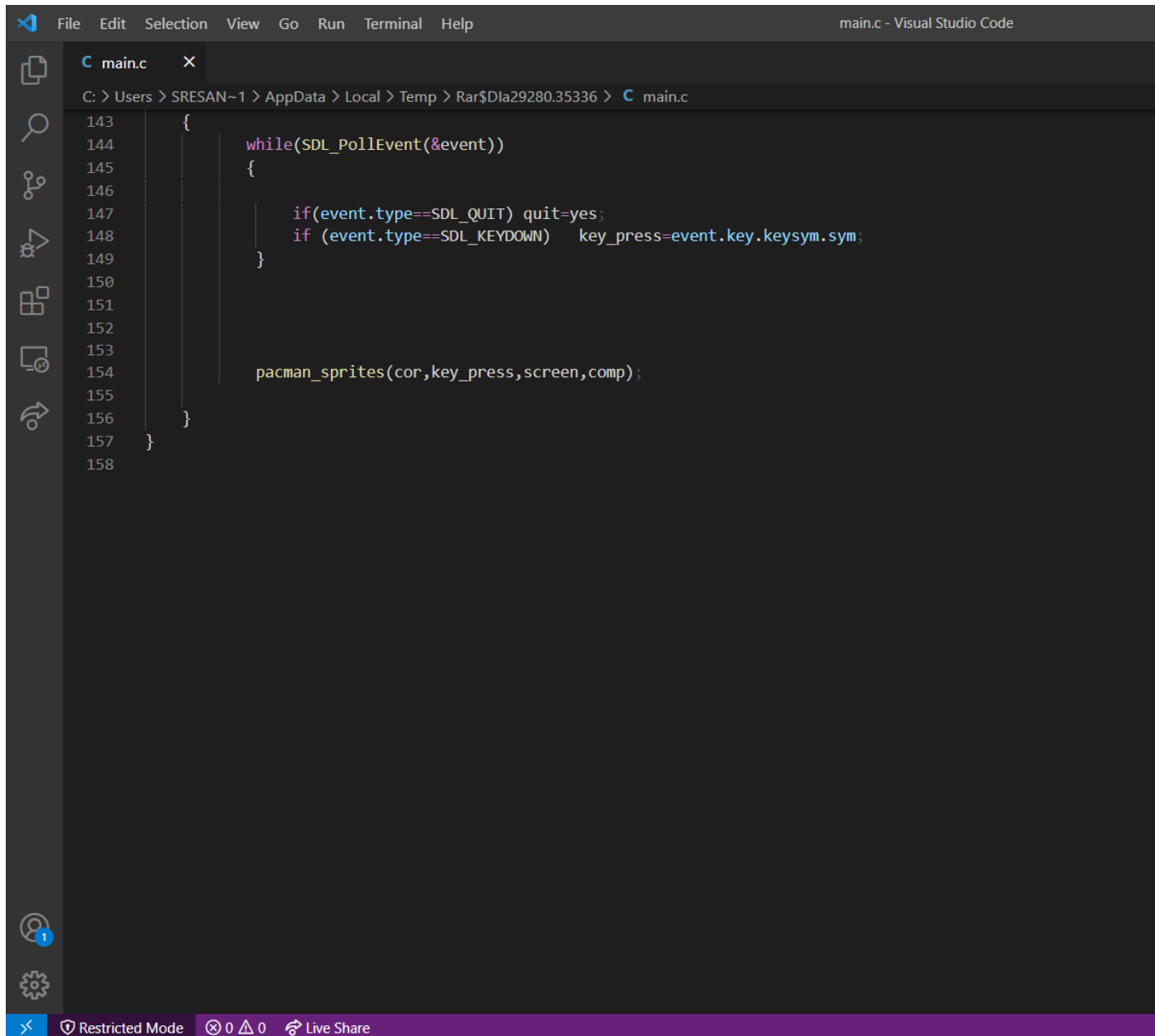
File Edit Selection View Go Run Terminal Helpmain.c - Visual Studio Code

C main.c X

C:\Users\SRESAN~1\AppData\Local\Temp\Rar\$Dla29280.35336 > C main.c

```
77     one=load_image("pacman.gif");
78     two=load_image("pacman_follow.gif");
79
80     if (legibility(comp,&direction)==yes)
81     {
82         moveit(direction); // it just changes the co-ordinates.....doesnt animate sprites
83         switch(direction)
84         {
85             case SDLK_UP:
86                 SDL_Blitsurface(one,&char_up,screen,&location);
87                 SDL_Flip(screen);
88                 break;
89             case SDLK_DOWN:
90                 SDL_Blitsurface(one,&char_down,screen,&location);
91                 SDL_Flip(screen);
92                 break;
93             case SDLK_RIGHT:
94                 SDL_Blitsurface(one,&char_right,screen,&location);
95                 SDL_Flip(screen);
96                 break;
97             case SDLK_LEFT:
98                 SDL_Blitsurface(one,&char_left,screen,&location);
99                 SDL_Flip(screen);
100             break;
101         }
102
103
104         SDL_Delay(75);
105         SDL_Blitsurface(one,&char_neutral,screen,&location);
106         SDL_Flip(screen);
107
108
109         SDL_Delay(75);
110         SDL_Blitsurface(two,NULL,screen,&location);
111         SDL_Flip(screen);
112     }
113     else
114     {
115         //SDL_Delay(1000);
```

Restricted Mode 0 0 Live Share



```
143     {
144         while(SDL_PollEvent(&event))
145         {
146             if(event.type==SDL_QUIT) quit=yes;
147             if (event.type==SDL_KEYDOWN) key_press=event.key.keysym.sym;
148         }
149
150
151
152
153         pacman_sprites(cor,key_press,screen,comp);
154
155     }
156 }
157
158
```

4.map.c file:

Though the program will run but it can't retain the erased lines in game and to make movements

C map.c X

C: > Users > SRESAN~1 > AppData > Local > Temp > Rar\$Dla29280.17508 > C map.c

```

1  #include "header.h"
2  void createmap(SDL_Surface* screen,char comp[20][12]) //plots the map from database
3  {
4      int i,j,k;
5      char ch;
6
7      FILE *fp;
8      if ((fp=fopen("temp.lvl","r"))==NULL) return;
9
10
11
12     SDL_Rect left_top,right_top,left_bottom,right_bottom,horizontal,vertical;
13     SDL_Rect plotter; //stores cursor to where pic to be loaded
14     left_top.x=0;left_top.y=0;left_top.w=24;left_top.h=24;
15     right_top.x=24;right_top.y=0;right_top.w=24;right_top.h=24;
16     left_bottom.x=48;left_bottom.y=0;left_bottom.w=24;left_bottom.h=24;
17     right_bottom.x=72;right_bottom.y=0;right_bottom.w=24;right_bottom.h=24;
18     horizontal.x=96;horizontal.y=0;horizontal.w=24;horizontal.h=24;
19     vertical.x=120;vertical.y=0;vertical.w=24;vertical.h=24;
20
21
22     SDL_Surface* border_pic;
23     border_pic=load_image("borders.gif");
24
25
26     //while (1)
27     for (k=0;k<240;k++)
28     {
29         fscanf(fp,"%d %d %c ",&i,&j,&ch);
30         // if (i==-1 && j==-1 && ch=='z') break;
31         comp[i][j]=ch;
32
33
34
35
36     }
37
38
39     for (i=0;i<20;i++)
40         for (j=0;j<12;j++)

```



```
File Edit Selection View Go Run Terminal Help map.c - Visual Studio Code

C map.c x
C: > Users > SRESAN~1 > AppData > Local > Temp > Rar$Dla29280.17508 > C map.c

39     for (i=0; i<20; i++)
40         for (j=0; j<12; j++)
41         {
42             plotter.x=10+i*24;
43             plotter.y=11+j*24;
44             if (comp[i][j]=='a') SDL_BlitSurface(border_pic,&left_top,screen,&plotter);
45             else if (comp[i][j]=='b') SDL_BlitSurface(border_pic,&right_top,screen,&plotter);
46             else if (comp[i][j]=='c') SDL_BlitSurface(border_pic,&left_bottom,screen,&plotter);
47             else if (comp[i][j]=='d') SDL_BlitSurface(border_pic,&right_bottom,screen,&plotter);
48             else if (comp[i][j]=='e') SDL_BlitSurface(border_pic,&horizontal,screen,&plotter);
49             else if (comp[i][j]=='f') SDL_BlitSurface(border_pic,&vertical,screen,&plotter);
50         }
51     }
52 }
53
54 fclose(fp);
55 }
56
57
58
59 void build_map(SDL_Surface* screen) // map maker...it saves the map to database
60 {
61
62
63     extern int quit;
64     int what_key;
65     char comp[20][12] , ch;
66     int i,j;
67     /*for (i=0; i<20; i++)
68     {
69         {
70             ch='*';
71             for (j=0; j<12; j++)
72             {
73                 comp[i][j]=ch;
74             }
75         }
76     }
77 */
78 }
```

map.c - Visual Studio Code

C map.c X

C:\Users\SRESAN~1\AppData\Local\Temp\Rar\$DLa29280.17508 > C map.c

```
78
79
80     SDL_Rect left_top,right_top,left_bottom,right_bottom,horizontal,vertical;
81     SDL_Rect plotter={10,11}; //stores cursor to where pic to be loaded
82     left_top.x=0;left_top.y=0;left_top.w=24;left_top.h=24;
83     right_top.x=24;right_top.y=0;right_top.w=24;right_top.h=24;
84     left_bottom.x=48;left_bottom.y=0;left_bottom.w=24;left_bottom.h=24;
85     right_bottom.x=72;right_bottom.y=0;right_bottom.w=24;right_bottom.h=24;
86     horizontal.x=96;horizontal.y=0;horizontal.w=24;horizontal.h=24;
87     vertical.x=120;vertical.y=0;vertical.w=24;vertical.h=24;
88
89
90     SDL_Surface* border_pic;
91     border_pic=load_image("borders.gif");
92     SDL_Surface* tick_mark;
93     tick_mark=load_image("tick_mark.gif");
94
95     SDL_Rect tick_up, tick_over,tick_location;
96     tick_up.x=0,tick_up.y=0; tick_up.w=50,tick_up.h=30;
97     tick_over.x=50,tick_over.y=0; tick_over.w=50,tick_over.h=30;
98     tick_location.x=445; tick_location.y=315;
99
100     SDL_Blitsurface(tick_mark,&tick_up,screen,&tick_location);
101
102
103
104     SDL_Event key_pressed;
105     while (quit==no)
106     {
107         while(SDL_PollEvent(&key_pressed))
108         {
109
110             if(key_pressed.type==SDL_QUIT) quit=yes;
111             if (key_pressed.type==SDL_KEYDOWN) what_key=key_pressed.key.keysym.sym;
112             if (key_pressed.type==SDL_MOUSEMOTION)
113             {
114                 if (key_pressed.motion.x >= tick_location.x && key_pressed.motion.x <= tick_location.x+50 && key_pressed.motion.y >= tick_location.y && key_pressed.mo
115                     SDL_Blitsurface(tick_mark,&tick_over,screen,&tick_location);
116                 else SDL_Blitsurface(tick_mark,&tick_up,screen,&tick_location);
117             }
```

Ln 1, Col 1 Spaces: 4 UTF-8 CRLF

```
C map.c X
C:\> Users > SRESAN-1 > AppData > Local > Temp > Rar$Dla29280.17508 > C map.c

116         else SDL_BlitterSurface(tick_mark,&tick_up,screen,&tick_location);
117
118     }
119     if (key_pressed.type== SDL_MOUSEBUTTONDOWN)
120     {
121         if (key_pressed.button==SDL_BUTTON_LEFT && key_pressed.button.x>=tick_location.x && key_pressed.button.x<=tick_location.x+50 && key_pressed.button.y>=tick_location.y && key_pressed.button.y<=tick_location.y+50)
122         { writetofile(comp); }
123     }
124
125
126 }
127
128
129 switch (what_key)
130 {
131     case SDLK_UP:
132         plotter.y-=24;
133
134         break;
135     case SDLK_DOWN:
136         plotter.y+=24;
137
138         break;
139     case SDLK_RIGHT:
140         plotter.x+=24;
141
142         break;
143     case SDLK_LEFT:
144         plotter.x-=24;
145
146         break;
147     case SDLK_a:
148         comp[(plotter.x-10)/24][(plotter.y-11)/24]='a';
149         break;
150
151     case SDLK_b:
152         comp[(plotter.x-10)/24][(plotter.y-11)/24]='b';
153         break;
154
155     case SDLK_c:
```

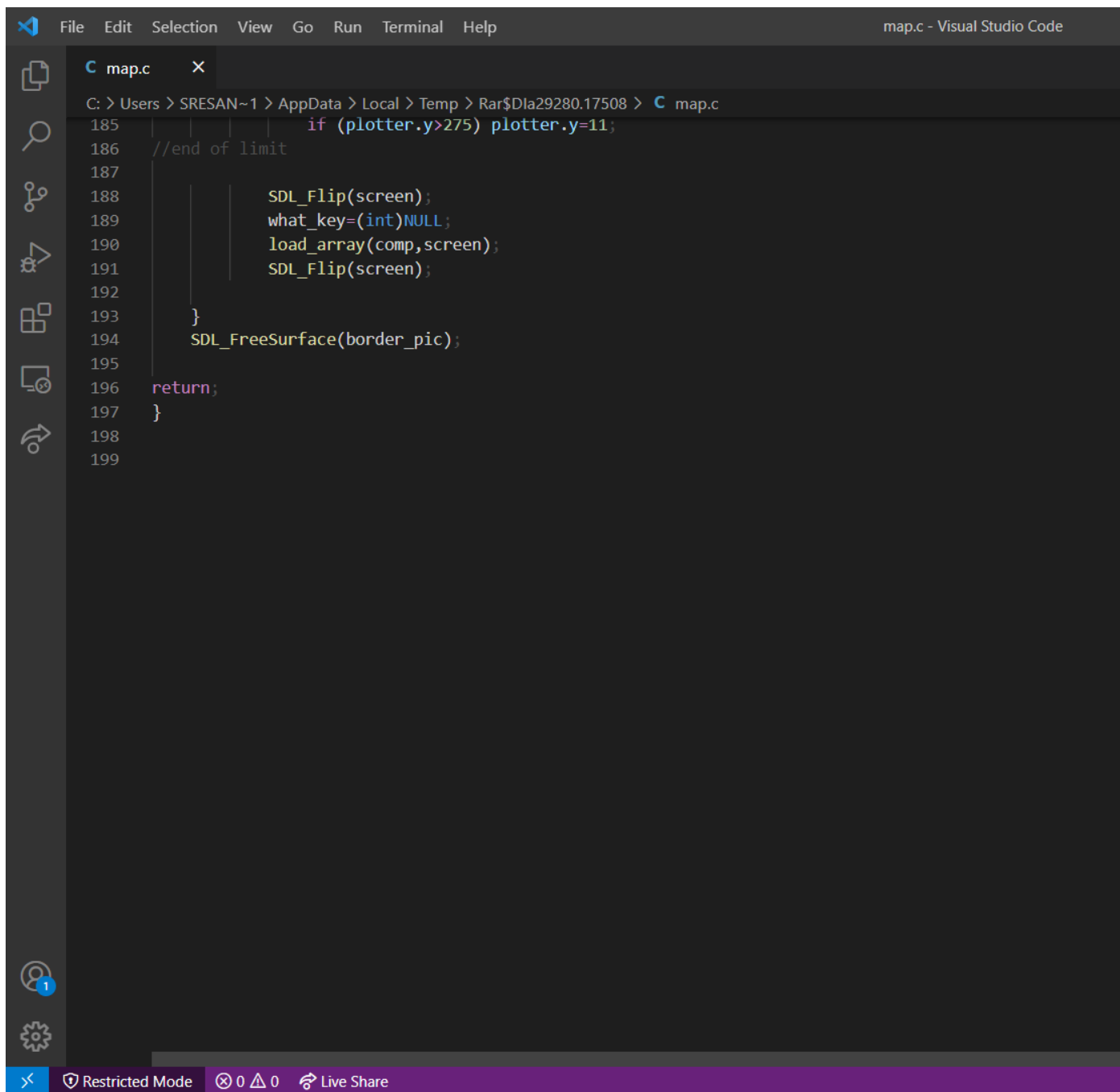
map.c

C: > Users > SRESAN~1 > AppData > Local > Temp > Rar\$Dla29280.17508 > map.c

```

151         case SDLK_b:
152             comp[(plotter.x-10)/24][(plotter.y-11)/24]='b';
153             break;
154
155         case SDLK_c:
156             comp[(plotter.x-10)/24][(plotter.y-11)/24]='c';
157             break;
158
159         case SDLK_d:
160             comp[(plotter.x-10)/24][(plotter.y-11)/24]='d';
161             break;
162
163         case SDLK_e:
164             comp[(plotter.x-10)/24][(plotter.y-11)/24]='e';
165             break;
166
167         case SDLK_f:
168             comp[(plotter.x-10)/24][(plotter.y-11)/24]='f';
169             break;
170
171         default:
172             SDL_BlitSurface(load_image("builder_cursor.gif"),NULL,screen,&plotter);
173             SDL_Flip(screen);
174             SDL_Delay(50);
175             SDL_BlitSurface(load_image("builder_cursor_follow.gif"),NULL,screen,&plotter);
176
177             break;
178     }
179
180
181     //limits editor_cursor upto editor portion only
182     if (plotter.x<10) plotter.x=466;
183     if (plotter.x>466) plotter.x=10;
184     if (plotter.y<11) plotter.y=275;
185     if (plotter.y>275) plotter.y=11;
186     //end of limit
187
188     SDL_Flip(screen);
189     what_key=(int)NULL;
190     load_array(comp,screen);

```



```
File Edit Selection View Go Run Terminal Help
map.c - Visual Studio Code

C map.c x
C: > Users > SRESAN~1 > AppData > Local > Temp > Rar$Dla29280.17508 > C map.c
185         if (plotter.y>275) plotter.y=11;
186     //end of limit
187
188         SDL_Flip(screen);
189         what_key=(int)NULL;
190         load_array(comp,screen);
191         SDL_Flip(screen);
192
193     }
194     SDL_FreeSurface(border_pic);
195
196     return;
197 }
198
199
```

1

Restricted Mode 0 0 Live Share

4. move_guide.c file:

It tells the compiler to move according to the guide in the source code. Where it is equivalent to arrays traversing. This part mostly handles the pointers used. Navigation buttons are defined for movements.

```
File Edit Selection View Go Run Terminal Help
• move_guide.c - Visual Studio Code

C move_guide.c
C: > Users > SRESAN~1 > AppData > Local > Temp > Rar$Dla29280.22237 > C move_guide.c

1  #include "header.h"
2  int legibility(char comp[20][12],int *direction)
3  {
4      int x,y;// equivalent of cor to array-no
5      char around[4]; // stores the values around pacman
6      static int prev_direction;
7      SDL_Rect cordinate;
8      extern SDL_Rect cor;
9      if (cor.x>500) cor.x=0;
10     if (cor.y>350) cor.y=0;
11     if (cor.x<0) cor.x=500;
12     if (cor.y<0) cor.y=350;
13
14     cordinate.x=cor.x+10;
15     cordinate.y=cor.y+10;
16     x=(cor.x-10-1)/24;
17     y=(cor.x-11-1)/24;
18
19
20
21
22     what_is_around(around,comp);
23
24     switch(*direction)
25     {
26     case SDLK_UP:
27         if ((around[0]=='a') || (around[0]=='e') || (around[1]=='b'))
28         {
29             *direction=prev_direction;
30         }
31
32         break;
33     case SDLK_DOWN:
34         /*if ((around[7]=='e' && around[7]=='a' && around[7]=='b'))
35         {
36             *direction=prev_direction;
37         }*/
38
39         break;
40     case SDLK_RIGHT:
```

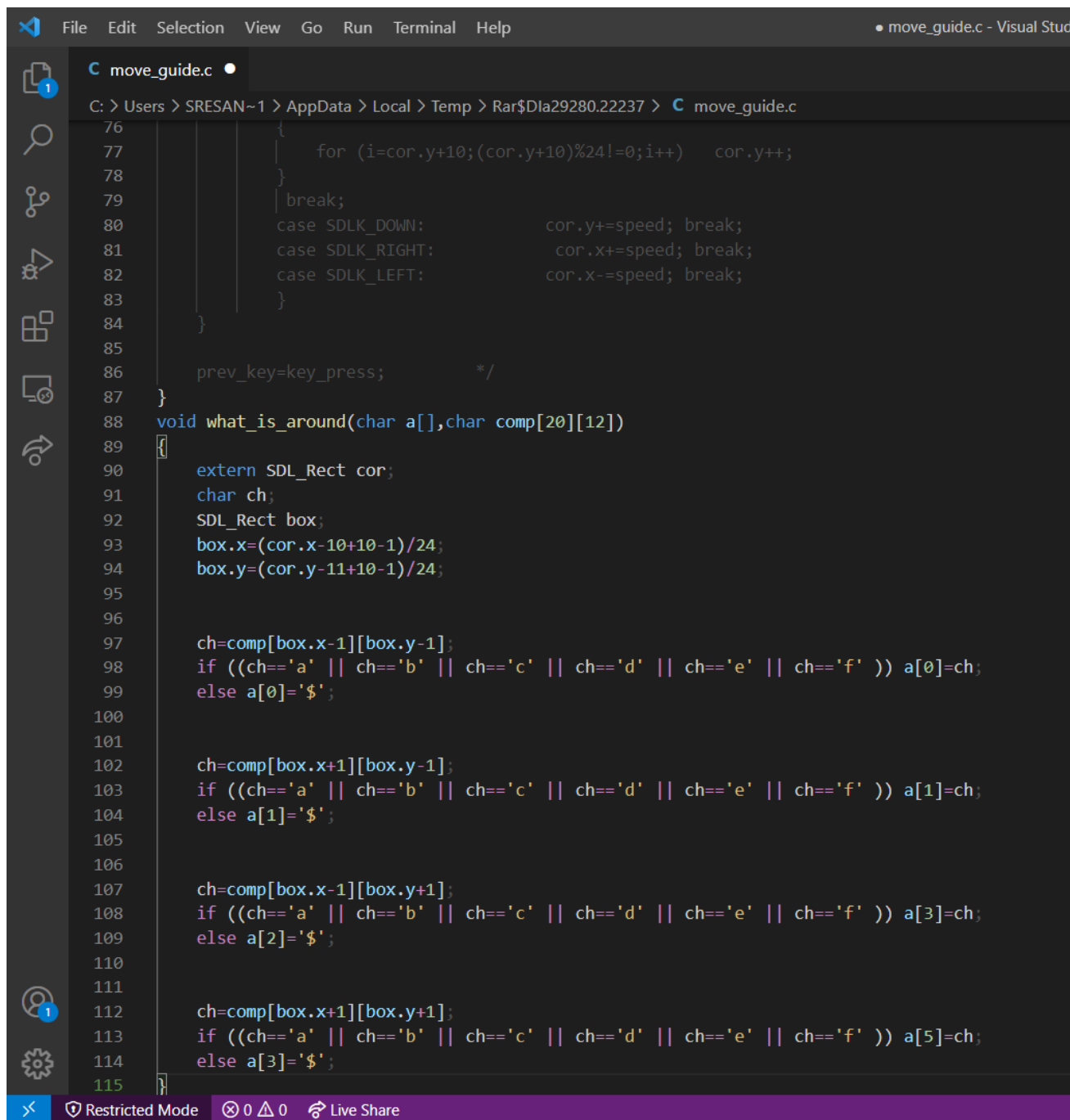
File Edit Selection View Go Run Terminal Help

move_guide.c •

C: > Users > SRESAN~1 > AppData > Local > Temp > Rar\$Dla29280.22237 > C move_guide.c

```
39         break;
40     case SDLK_RIGHT:
41
42         break;
43     case SDLK_LEFT:
44
45         break;
46     }
47
48     prev_direction=*direction;
49     return yes;
50
51
52 }
53
54
55 void moveit(int key_press)
56 {
57     extern SDL_Rect cor;
58     int i;
59     // static int prev_key;
60     // if (prev_key==key_press) {
61     //     switch (key_press)
62     //     {
63     //     case SDLK_UP:         cor.y-=speed; break;
64     //     case SDLK_DOWN:     cor.y+=speed; break;
65     //     case SDLK_RIGHT:    cor.x+=speed; break;
66     //     case SDLK_LEFT:    cor.x-=speed; break;
67     //     }
68     // }
69     else
70     {
71         switch (key_press)
72         {
73             case SDLK_UP:
74                 if ((cor.x+10)%24==0 && (cor.y+11)%24==0) cor.y-=speed;
75             else
76             {
77                 for (i=cor.y+10;(cor.y+10)%24!=0;i++) cor.y++;
78             }
79         }
80     }
81 }
```

Restricted Mode 0 0 Live Share



```
76         {
77             for (i=cor.y+10;(cor.y+10)%24!=0;i++)    cor.y++;
78         }
79         break;
80     case SDLK_DOWN:        cor.y+=speed; break;
81     case SDLK_RIGHT:       cor.x+=speed; break;
82     case SDLK_LEFT:        cor.x-=speed; break;
83     }
84 }
85
86 prev_key=key_press;    /*
87 }
88 void what_is_around(char a[],char comp[20][12])
89 {
90     extern SDL_Rect cor;
91     char ch;
92     SDL_Rect box;
93     box.x=(cor.x-10+10-1)/24;
94     box.y=(cor.y-11+10-1)/24;
95
96
97     ch=comp[box.x-1][box.y-1];
98     if ((ch=='a' || ch=='b' || ch=='c' || ch=='d' || ch=='e' || ch=='f' )) a[0]=ch;
99     else a[0]='$';
100
101
102     ch=comp[box.x+1][box.y-1];
103     if ((ch=='a' || ch=='b' || ch=='c' || ch=='d' || ch=='e' || ch=='f' )) a[1]=ch;
104     else a[1]='$';
105
106
107     ch=comp[box.x-1][box.y+1];
108     if ((ch=='a' || ch=='b' || ch=='c' || ch=='d' || ch=='e' || ch=='f' )) a[3]=ch;
109     else a[2]='$';
110
111
112     ch=comp[box.x+1][box.y+1];
113     if ((ch=='a' || ch=='b' || ch=='c' || ch=='d' || ch=='e' || ch=='f' )) a[5]=ch;
114     else a[3]='$';
115 }
```

OUTPUT:

The game runs good and reacts to buttons

