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**Curso Superior de Tecnologia em  
Análise e Desenvolvimento de Sistemas**

**Disciplina  
Linguagem de Programação**

# Exercícios

# **Exercício - 01**

**Criar um programa em linguagem C  
que imprima na tela a palavra  
“WARNING” na cor vermelha e  
piscando infinitamente até que seja  
pressionado uma tecla. .**

# Exercício - 01



The image shows a screenshot of the Turbo C++ Integrated Development Environment (IDE). The main window displays a C program file named `1.CPP` located at `\TURBOC3\2-TEXT`. The code is as follows:

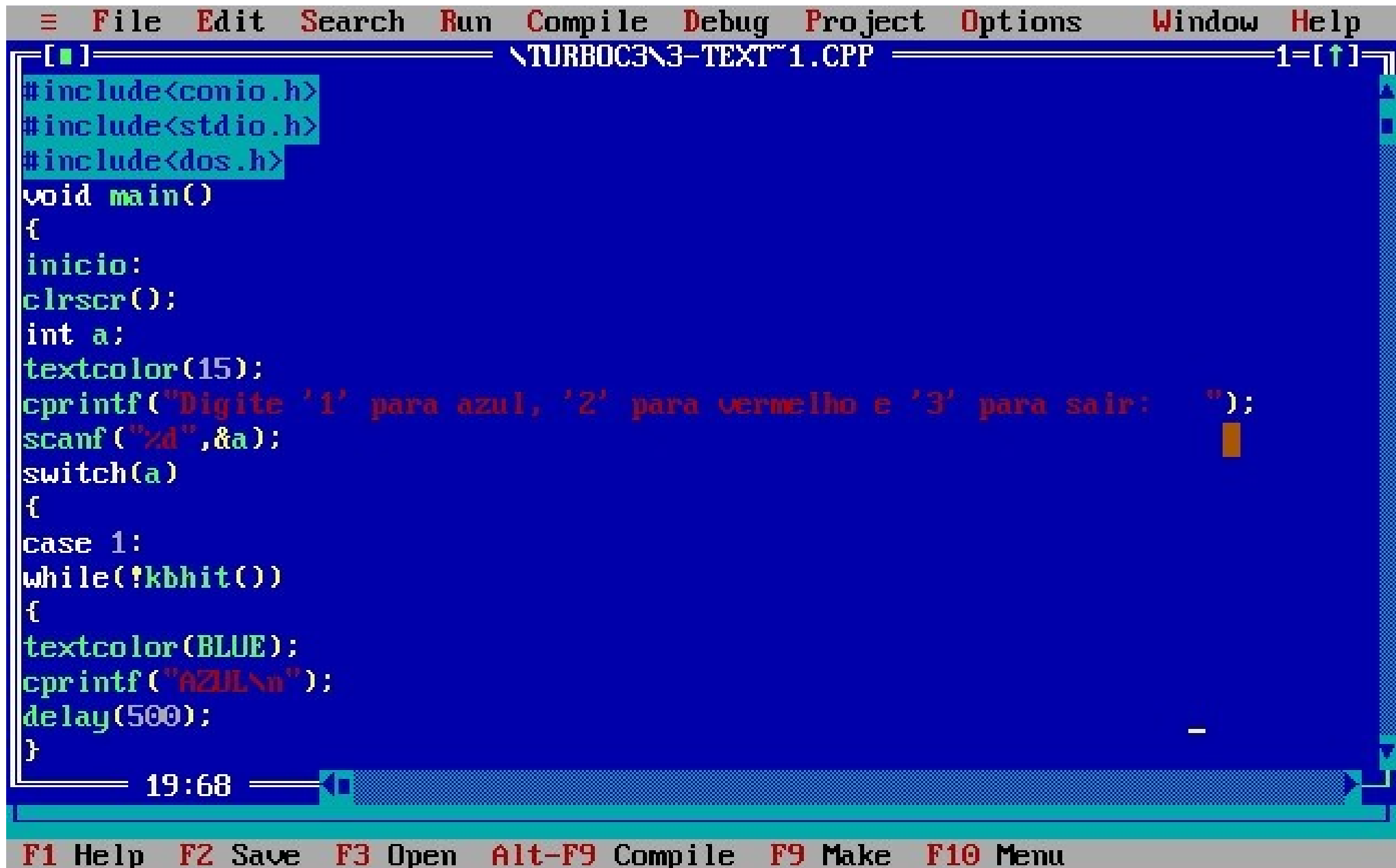
```
#include<conio.h>
#include<stdio.h>
#include<dos.h>
void main()
{
clrscr();
textcolor(RED+BLINK);
while(!kbhit())
{
cprintf("WARNING\n");
delay(100);
}
getch();
}
```

The status bar at the bottom indicates the current line and column as `1:1`. Below the code editor is a `Message` window, which is currently empty. The bottom of the screen features a menu bar with the following options: `F1 Help`, `F2 Save`, `F3 Open`, `Alt-F9 Compile`, `F9 Make`, and `F10 Menu`.

# **Exercício - 02**

**Criar um programa em linguagem C que digite 1 para Imprimir uma palavra na cor azul e 2 para cor vermelha e 3 para sair, porém quando pressionado 1 ou 2, a cor da palavra deverá ser alterada imediatamente.**

# Exercício - 02



The image shows a screenshot of the Turbo C++ IDE. The title bar at the top reads "File Edit Search Run Compile Debug Project Options Window Help". The menu bar below it contains the same items. The main window displays a C++ program file named "1.CPP" located at "TURBOC3\3-TEXT". The code is as follows:

```
#include<conio.h>
#include<stdio.h>
#include<dos.h>
void main()
{
    inicio:
    clrscr();
    int a;
    textcolor(15);
    cprintf("Digite '1' para azul, '2' para vermelho e '3' para sair: ");
    scanf("%d",&a);
    switch(a)
    {
    case 1:
        while(!kbhit())
        {
            textcolor(BLUE);
            cprintf("AZUL\n");
            delay(500);
        }
    }
```

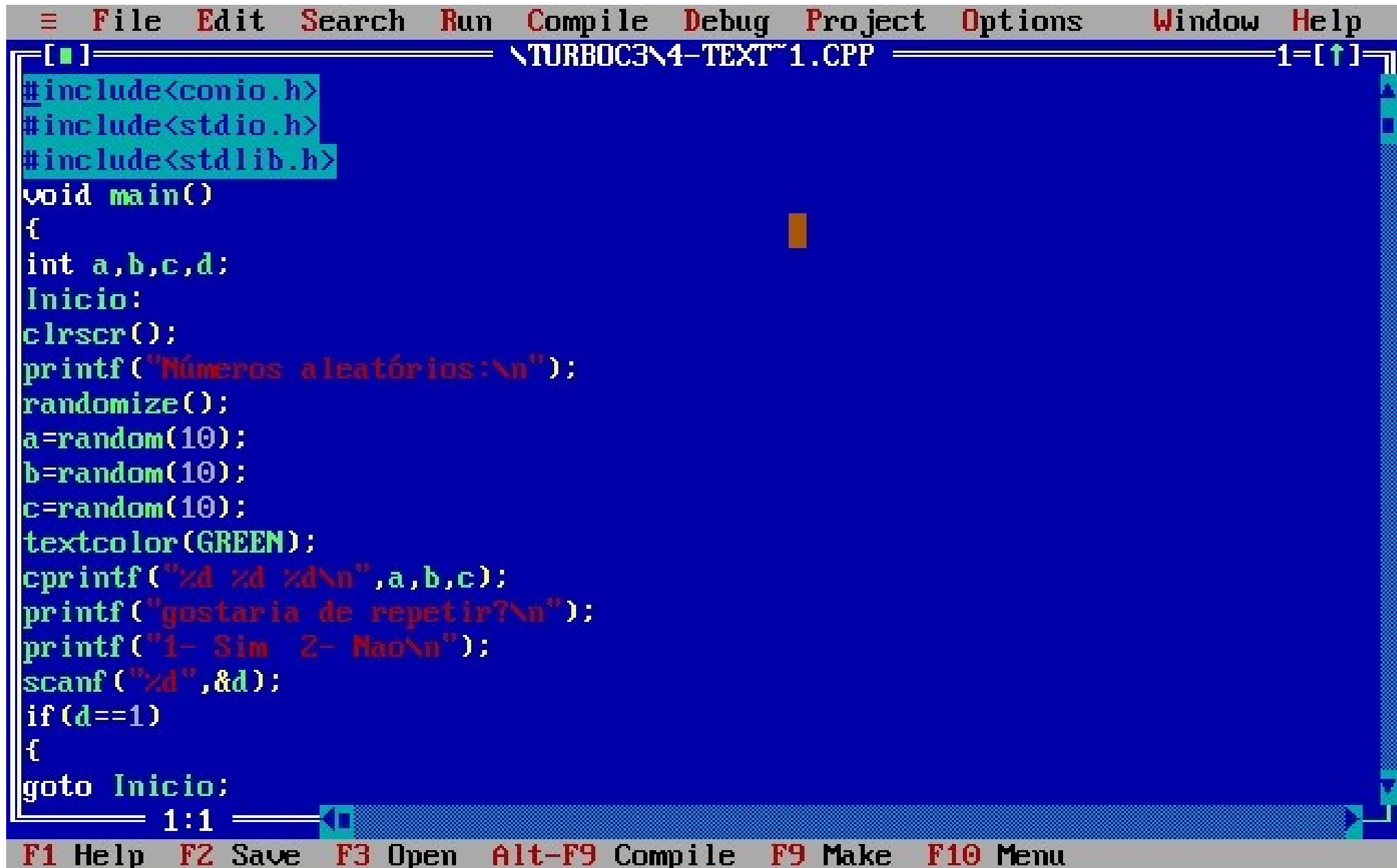
The status bar at the bottom shows the time "19:68" and a series of function key shortcuts: F1 Help, F2 Save, F3 Open, Alt-F9 Compile, F9 Make, and F10 Menu.

# **Exercício - 03**

**Criar um programa em linguagem C que faça o sorteio de três números e cores aleatórios e que não se coincidam entre eles no sorteio e nem nas cores.**



# Exercício - 03



The image shows a screenshot of the Turbo C++ IDE. The title bar at the top reads "File Edit Search Run Compile Debug Project Options Window Help". The menu bar below it contains the same items. The main window displays a C program file named "1.CPP" located at "C:\TURBOC3\4-TEXT". The code is as follows:

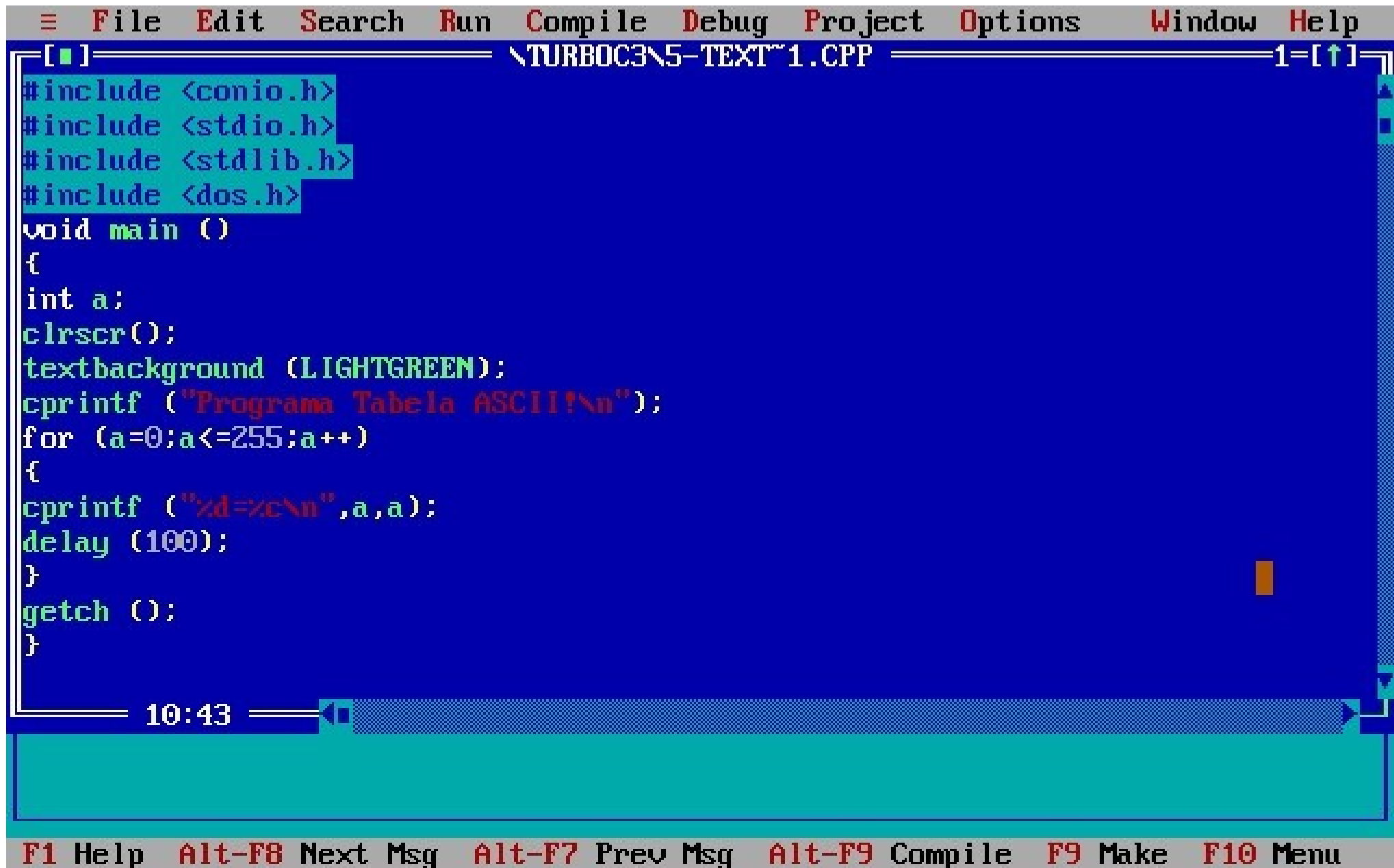
```
#include<conio.h>
#include<stdio.h>
#include<stdlib.h>
void main()
{
int a,b,c,d;
Inicio:
clrscr();
printf("Números aleatórios:\n");
randomize();
a=random(10);
b=random(10);
c=random(10);
textcolor(GREEN);
cprintf("%d %d %d\n",a,b,c);
printf("gostaria de repetir?\n");
printf("1- Sim 2- Nao\n");
scanf("%d",&d);
if(d==1)
{
goto Inicio;
}
```

The status bar at the bottom shows the line and column number "1:1" and a set of function key shortcuts: "F1 Help", "F2 Save", "F3 Open", "Alt-F9 Compile", "F9 Make", and "F10 Menu".

# **Exercício - 04**

**Criar um programa em linguagem C que imprima a tela ASCII com a cor de fundo do texto na cor verde claro com intervalo de um décimo de segundo.**

# Exercício - 04



The image shows a screenshot of the Turbo C++ Integrated Development Environment (IDE). The title bar at the top reads "File Edit Search Run Compile Debug Project Options Window Help". The menu bar below it contains the same options. The main window displays a C program file named "1.CPP" located at "TURBOC3\5-TEXT". The code is as follows:

```
#include <conio.h>
#include <stdio.h>
#include <stdlib.h>
#include <dos.h>

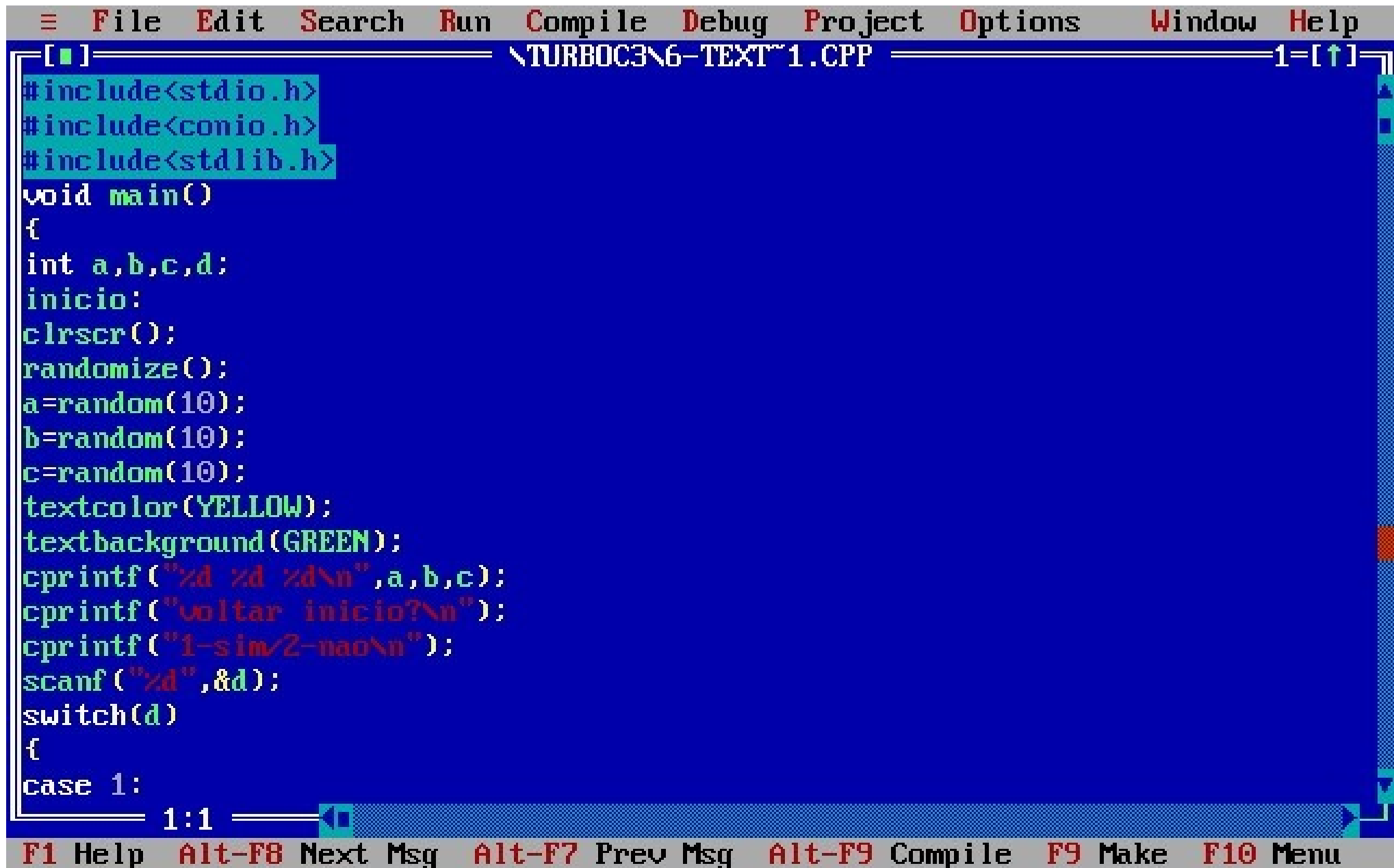
void main ()
{
    int a;
    clrscr();
    textbackground (LIGHTGREEN);
    cprintf ("Programa Tabela ASCII!\n");
    for (a=0;a<=255;a++)
    {
        cprintf ("%d=%c\n",a,a);
        delay (100);
    }
    getch ();
}
```

The code is written in a monospaced font. The first four include statements are highlighted in light blue. The program uses the `conio.h` library for `clrscr()`, `textbackground()`, `cprintf()`, and `getch()`. It uses `stdio.h` for `cprintf()` and `stdlib.h` for `delay()`. The `dos.h` library is included but not used. The program prints an ASCII table with a light green background. The status bar at the bottom shows the time "10:43" and a series of function key shortcuts: F1 Help, Alt-F8 Next Msg, Alt-F7 Prev Msg, Alt-F9 Compile, F9 Make, and F10 Menu.

# **Exercício - 05**

**Criar um programa em linguagem C que faça o sorteio de três números aleatórios, com cores do texto na cor amarela e fundo do texto na cor verde.**

# Exercício - 05



The image shows a screenshot of the Turbo C++ IDE. The title bar at the top reads "File Edit Search Run Compile Debug Project Options Window Help". The menu bar below it contains the same items. The main window displays a C++ program named "1.CPP" located at "\TURBOC3\6-TEXT". The code is as follows:

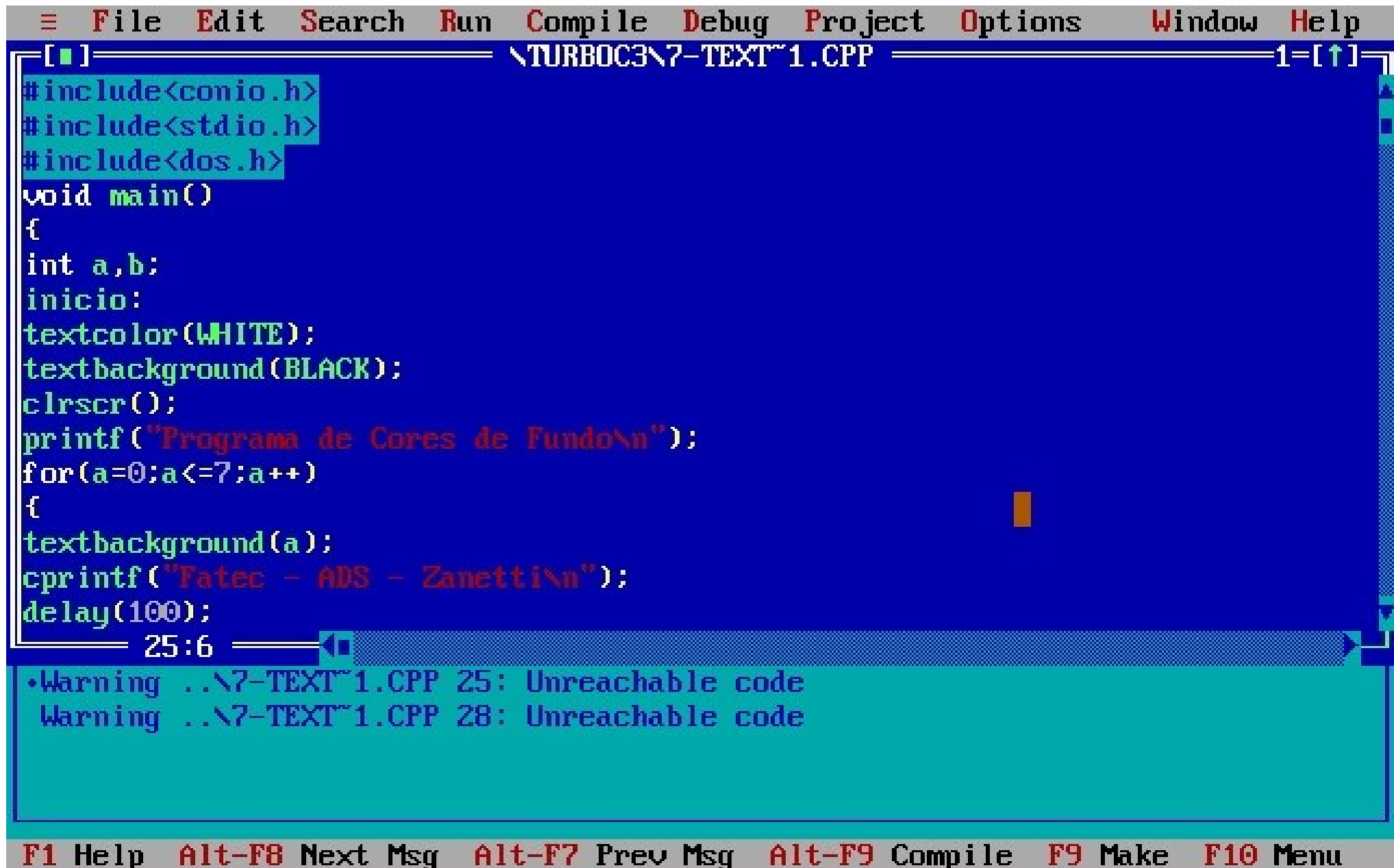
```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void main()
{
int a,b,c,d;
inicio:
clrscr();
randomize();
a=random(10);
b=random(10);
c=random(10);
textcolor(YELLOW);
textbackground(GREEN);
cprintf("%d %d %d\n",a,b,c);
cprintf("votar inicio?\n");
cprintf("1-sim/2-nao\n");
scanf("%d",&d);
switch(d)
{
case 1:
```

The status bar at the bottom shows "1:1" and a series of function key shortcuts: F1 Help, Alt-F8 Next Msg, Alt-F7 Prev Msg, Alt-F9 Compile, F9 Make, and F10 Menu.

# **Exercício - 06**

**Criar um programa em linguagem C que imprima na tela uma palavra 8 vezes e com 8 cores de fundo do texto aleatórias.**

# Exercício - 06



The image shows a screenshot of the Turbo C++ IDE. The main window displays a C++ program named `1.CPP` located at `\TURBOC3\7-TEXT`. The code includes headers `<conio.h>`, `<stdio.h>`, and `<dos.h>`. The `main` function sets the text color to white and the background to black, then prints "Programa de Cores de Fundo\n". It enters a loop from `a=0` to `a=7`, where it sets the background color to `a` and prints "Fatec - ADS - Zanetti\n". The program ends with a `delay(100);` call. The status bar at the bottom indicates the cursor is at line 25, column 6. A warning window at the bottom shows two messages: "Warning ..\7-TEXT\1.CPP 25: Unreachable code" and "Warning ..\7-TEXT\1.CPP 28: Unreachable code". The IDE's menu bar includes File, Edit, Search, Run, Compile, Debug, Project, Options, Window, and Help. The status bar at the very bottom lists keyboard shortcuts: F1 Help, Alt-F8 Next Msg, Alt-F7 Prev Msg, Alt-F9 Compile, F9 Make, and F10 Menu.

```
File Edit Search Run Compile Debug Project Options Window Help
[TITLE BAR] \TURBOC3\7-TEXT\1.CPP 1=11
#include<conio.h>
#include<stdio.h>
#include<dos.h>
void main()
{
int a,b;
inicio:
textcolor(WHITE);
textbackground(BLACK);
clrscr();
printf("Programa de Cores de Fundo\n");
for(a=0;a<=7;a++)
{
textbackground(a);
cprintf("Fatec - ADS - Zanetti\n");
delay(100);
}
}
25:6
Warning ..\7-TEXT\1.CPP 25: Unreachable code
Warning ..\7-TEXT\1.CPP 28: Unreachable code
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu
```

# **Exercício - 07**

**Criar um programa em linguagem C que imprima na tela uma palavra com a cor do texto piscando na coordenada X=22 e Y=13.**



# Exercício - 07

The image shows a Turbo C++ IDE window. The title bar includes menu items: File, Edit, Search, Run, Compile, Debug, Project, Options, Window, and Help. The window title is `\TURBOC3\10-GOT~1.CPP`. The code editor contains the following C++ code:

```
#include<stdio.h>
#include<dos.h>
#include<conio.h>
void main()
{
clrscr();
textcolor(WHITE+BLINK);
gotoxy(22,13);
cprintf(" FATEC - Taubate - ADS - Prof. Zanetti -");
getch();
}
```

The status bar at the bottom of the code editor shows `1:1`. Below the code editor is a message window titled "Message" with the text:

```
•Compiling ..\9-TEXT~1.CPP:
```

The bottom status bar of the IDE displays the following keyboard shortcuts: `F1 Help`, `Alt-F8 Next Msg`, `Alt-F7 Prev Msg`, `Alt-F9 Compile`, `F9 Make`, and `F10 Menu`.

# **Exercício - 08**

**Criar um programa em linguagem C que  
Imprimir dois retângulos ( CTRL+219 )  
cada um em sua extremidade da tela  
em horizontal, onde os mesmos  
atravessem vagarosamente de um lado  
para o outro ao mesmo tempo sem  
deixar rastro.**

# Exercício - 08

The image shows a screenshot of the Turbo C++ IDE. The top menu bar includes File, Edit, Search, Run, Compile, Debug, Project, Options, Window, and Help. The title bar of the main window reads "\TURBOC3\11-GOT~1.CPP". The main text area has a blue background and contains the following C code:

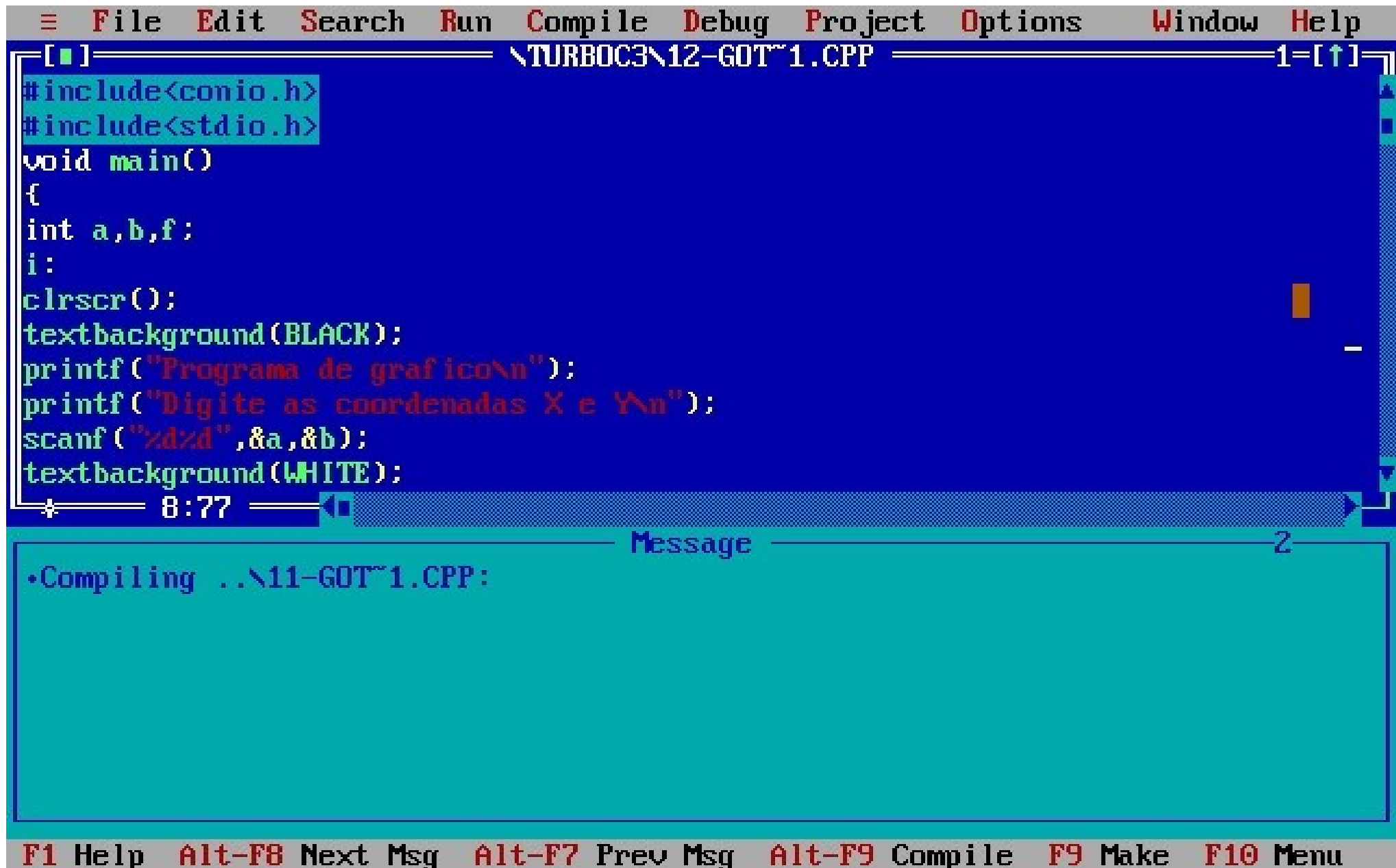
```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
#include<dos.h>
void main()
{
clrscr();
int a;
for(a=0;a<=60;a++)
{
```

Below the code editor is a status bar showing the time "9:57". At the bottom of the IDE is a "Message" window with a light blue background, which displays the compilation message: "•Compiling ..\11-GOT~1.CPP:". The bottom-most status bar contains the following keyboard shortcuts: F1 Help, Alt-F8 Next Msg, Alt-F7 Prev Msg, Alt-F9 Compile, F9 Make, and F10 Menu.

# **Exercício - 09**

**Criar um programa em linguagem C que imprima um retângulo (CTRL+219) na tela, quando digitado as suas coordenadas.**

# Exercício - 09



The image shows a screenshot of the Turbo C++ IDE. The main window displays a C program named 12-GOT~1.CPP. The code includes headers for conio.h and stdio.h, and defines a main function that clears the screen, sets the text background to black, prints a message, prompts for coordinates, reads them, and then sets the text background to white. The status bar at the bottom shows the cursor is at line 8, column 77. A message window at the bottom displays the compilation output: "Compiling ..\11-GOT~1.CPP:". The IDE's menu bar includes File, Edit, Search, Run, Compile, Debug, Project, Options, Window, and Help. The status bar also includes function key shortcuts: F1 Help, Alt-F8 Next Msg, Alt-F7 Prev Msg, Alt-F9 Compile, F9 Make, and F10 Menu.

```
File Edit Search Run Compile Debug Project Options Window Help
[ ] \TURBOC3\12-GOT~1.CPP 1=[↑]
#include<conio.h>
#include<stdio.h>
void main()
{
int a,b,f;
i:
clrscr();
textbackground(BLACK);
printf("Programa de grafico\n");
printf("Digite as coordenadas X e Y\n");
scanf("%d%d",&a,&b);
textbackground(WHITE);
}
8:77
Message 2
•Compiling ..\11-GOT~1.CPP:
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu
```

# **Exercício - 10**

**Criar um programa em linguagem C que quando acionado 1 acione um som e que pergunte quantas vezes será repetido esse som ou digite dois para sair.**

# Exercício - 10



```
File Edit Search Run Compile Debug Project Options Window Help
\TURBOC3\13-SOU~1.CPP 1=[↑]
#include<conio.h>
#include<stdio.h>
#include<dos.h>
void main()
{
int a,b,c;
clrscr();
printf("\t\t\tPrograma de Som\n");
printf("Digite '1' para ouvir e '2' para sair\n");
scanf("%d",&a);
printf("Digite o umero de vezes que deseja ouvir\n");
scanf("%d",&b);
switch(a)
{
case 1:
for(c=1;c<=b;c++)
{
sound(250);
delay(30);
sound(250);
delay(50);
}
}
}
```

43:6

F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu

# **Exercício - 11**

**Criar um programa em linguagem C que teste sua audição com uma frequência de 0 a 15600.**



# Exercício - 11

The image shows a Turbo C++ IDE window. The title bar reads "TURBOC3\14-SOU~1.CPP". The menu bar includes File, Edit, Search, Run, Compile, Debug, Project, Options, Window, and Help. The code editor contains the following C code:

```
#include<stdio.h>
#include<conio.h>
#include<dos.h>
void main()
{
int a;
for(a=0;a<=15600;a++)
{
sound(a);
delay(10);
nosound();
}
}
```

The status bar at the bottom of the editor shows "13:2". Below the code editor, a message window displays the following warning:

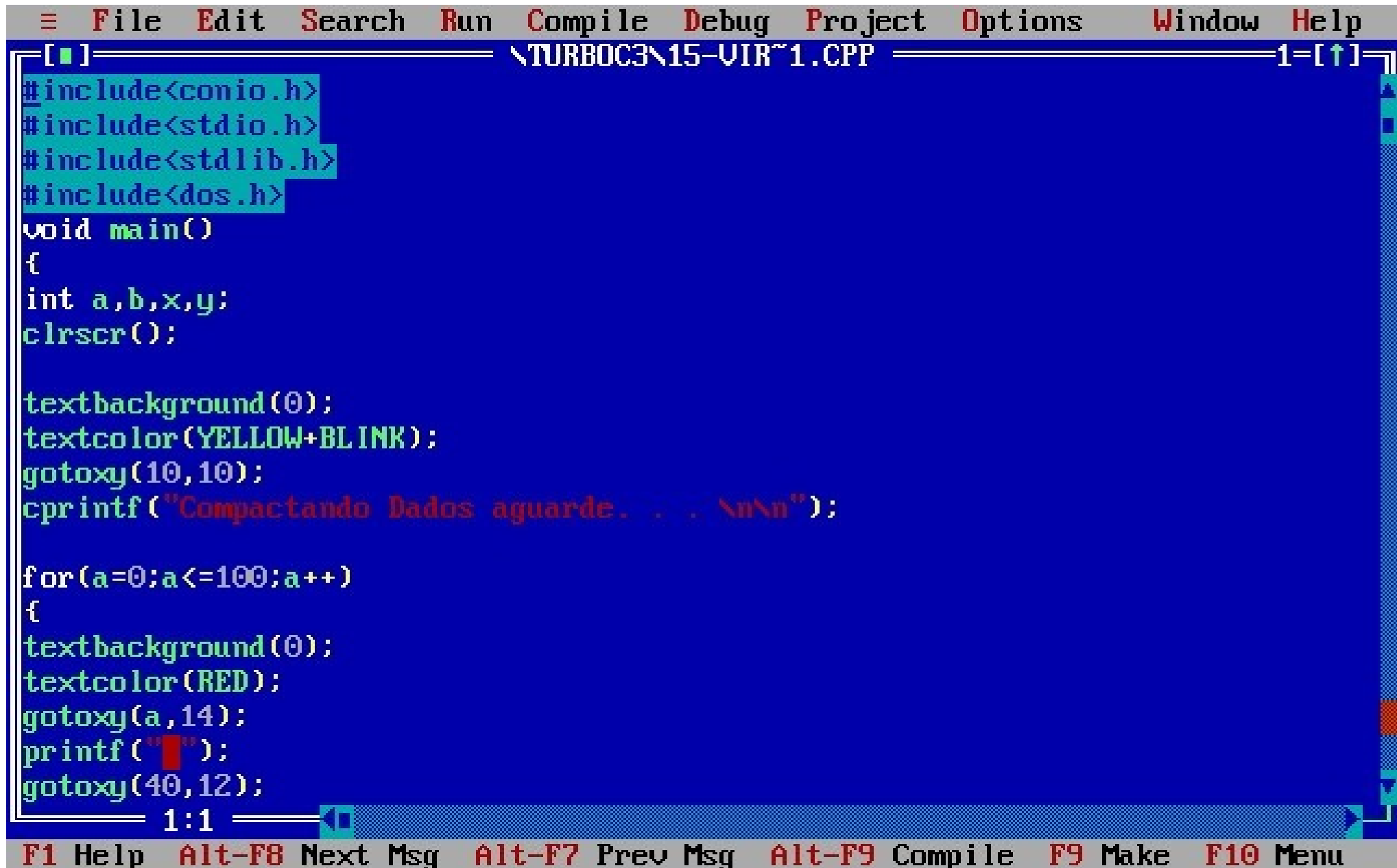
```
•Warning ..\13-SOU~1.CPP 43: Unreachable code
```

The bottom status bar of the IDE contains the following keyboard shortcuts: F1 Help, Alt-F8 Next Msg, Alt-F7 Prev Msg, Alt-F9 Compile, F9 Make, and F10 Menu.

# **Exercício - 12**

**Criar um vírus em linguagem C e baseado nos comandos já explanados anteriormente.**

# Exercício - 12



The image shows a screenshot of the Turbo C++ IDE. The title bar at the top reads "File Edit Search Run Compile Debug Project Options Window Help". The menu bar below it contains the same items. The main window title is "\TURBOC3\15-VIR~1.CPP". The code is as follows:

```
[■]===== \TURBOC3\15-VIR~1.CPP =====1=[↑]
#include<conio.h>
#include<stdio.h>
#include<stdlib.h>
#include<dos.h>
void main()
{
int a,b,x,y;
clrscr();

textbackground(0);
textcolor(YELLOW+BLINK);
gotoxy(10,10);
cprintf("Compactando Dados aguarde. . . \n\n");

for(a=0;a<=100;a++)
{
textbackground(0);
textcolor(RED);
gotoxy(a,14);
printf("■");
gotoxy(40,12);
1:1
```

The status bar at the bottom contains the following function key shortcuts: F1 Help, Alt-F8 Next Msg, Alt-F7 Prev Msg, Alt-F9 Compile, F9 Make, and F10 Menu.